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DSC-S40

SERVICE MANUAL

LEVEL 2

Ver 1.1 2005.06
Revision History

How to use
Acrobat Reader

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Hong Kong Model
Chinese Model
Korea Model
Japanese Model
Tourist Model

Link

SPECIFICATIONS	BLOCK DIAGRAMS	PRINTED WIRING BOARDS
SERVICE NOTE	FRAME SCHEMATIC DIAGRAM	REPAIR PARTS LIST
DISASSEMBLY	SCHEMATIC DIAGRAMS	

- For ADJUSTMENTS (SECTION 6), refer to SERVICE MANUAL, ADJ (9-876-868-51).
- For INSTRUCTION MANUAL, refer to SERVICE MANUAL, LEVEL 1 (9-876-868-41).
- This service manual contains information for Japanese model as well.
- Reference No. search on printed wiring boards is available.
- The Cautions at the Time of Lens Block handling
- Method for Copying or Erasing the Data in Internal Memory.
- The Method of Attachment of FP-176 Flexible Board.
- HELP: Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

On the CH-169 and SY-116 boards
This service manual procides the information that is premised the circuit board replacement service and not intended repair inside the CH-169 and SY-116 boards.
Therefore, schematic diagram, printed wiring board and electrical parts list of the CH-169 and SY-116 boards are not shown.
The following pages are not shown.

Schematic diagrams ..... Pages 4-9 to 4-26
Printed wiring boards ..... Pages 4-37 to 4-40
Waveforms ..... Pages 4-49
Mounted parts location ..... Pages 4-50
Electrical parts list ..... Pages 5-6 and 5-8 to 5-11

The above-described information is shown in service manual Level 3.

DIGITAL STILL CAMERA

SONY®

Sony EMCS Co.
2005F0500-1
© 2005.6
Published by DI Technical Support Department

Self Diagnosis Supported model

Cyber-shot

MEMORY STICK ™

SPECIFICATIONS

Camera

[System]

Image device: 6.85 mm (1/2.7 type) color CCD, Primary color filter

Total pixel number of camera: Approx. 4 231 000 pixels

Effective pixel number of camera: Approx. 4 065 000 pixels

Lens: Carl Zeiss Vario-Tessar
3× zoom lens
f = 5.1 - 15.3 mm (32 - 96 mm when converted to a 35 mm still camera)
F2.8 - 5.1
Automatic ND filter switching

Exposure control: Automatic exposure, Scene Selection (7 modes)

White balance: Automatic, Daylight, Cloudy, Fluorescent, Incandescent

File format (DCF compliant)
Still images: Exif Ver. 2.2 JPEG compliant, DPOF compatible
Movies: MPEG1 compliant (Monaural)

Recording media: Internal memory 32 MB
"Memory Stick"

Flash: Recommended distance (ISO set to Auto): 0.2 m to 3.8 m (7 7/8 inches to 12 feet 5 19/32 inches) (W)/0.5 m to 2.1 m (19 11/16 inches to 6 feet 10 11/16 inches) (T)

[Input and Output connectors]

USB jack: mini-B

USB communication
Hi-Speed USB (USB 2.0 compliant)

[LCD screen]

LCD panel: 3.8 cm (1.5 type) TFT drive

Total number of dots
76 800 (320×240) dots

[Power, general]

Power: R6 (size AA) Alkaline batteries (2), 3 V
HR 15/51:HR6 (size AA) Nickel-Metal Hydride batteries (2, not supplied), 2.4 V
ZR6 (size AA) Oxy Nickel Primary Battery (2, not supplied), 3 V
AC-LS5K AC Adaptor (not supplied), 4.2 V

Power consumption
(during shooting with the LCD screen on)
0.9 W

Operating temperature
0°C to +40°C (+32°F to +104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions: 99×51.7×34.2 mm (4×2 1/8×1 3/8 inches) (W/H/D, excluding maximum protrusions)

Mass: Approx. 180 g (6.4 oz) (including two batterries and wrist strap)

Microphone: Electret condenser microphone

Speaker: Dynamic speaker

Exif Print: Compatible

PRINT Image Matching III
Compatible

PictBridge: Compatible

Design and specifications are subject to change without notice.

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CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. FLEXIBLE Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

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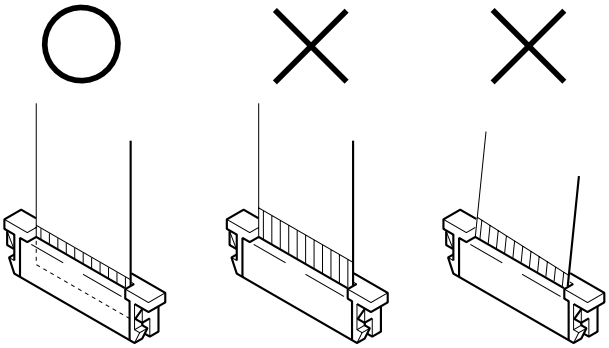
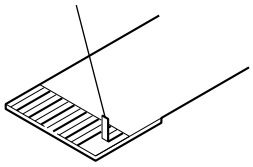
1. SERVICE NOTE

1-1. NOTE FOR REPAIR

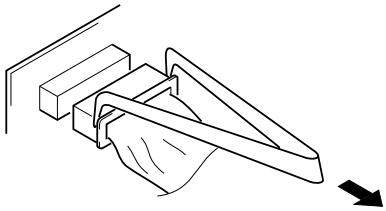
Make sure that the flat cable and flexible board are not cracked of bent at the terminal.
Do not insert the cable insufficiently nor crookedly.



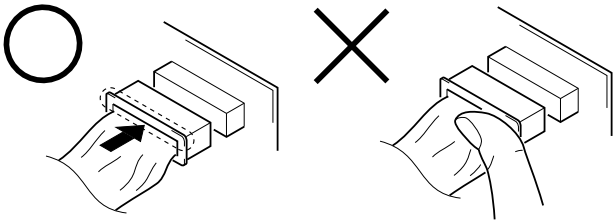
Cut and remove the part of gilt which comes off at the point. (Be careful or some pieces of gilt may be left inside)



When remove a connector, don't pull at wire of connector.
It is possible that a wire is snapped.



When installing a connector, don't press down at wire of connector.
It is possible that a wire is snapped.

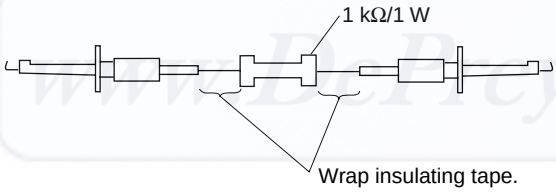


1-2. DISCHARGING OF THE ST-116 BOARD'S CHARGING CAPACITOR (C901)

The charging capacitor (C901) of ST-116 board is charged up to the maximum 300 V potential.
There is a danger of electric shock by this high voltage when the capacitor is handled by hand. The electric shock is caused by the charged voltage which is kept without discharging when the main power of the unit is simply turned off. Therefore, the remaining voltage must be discharged as described below.

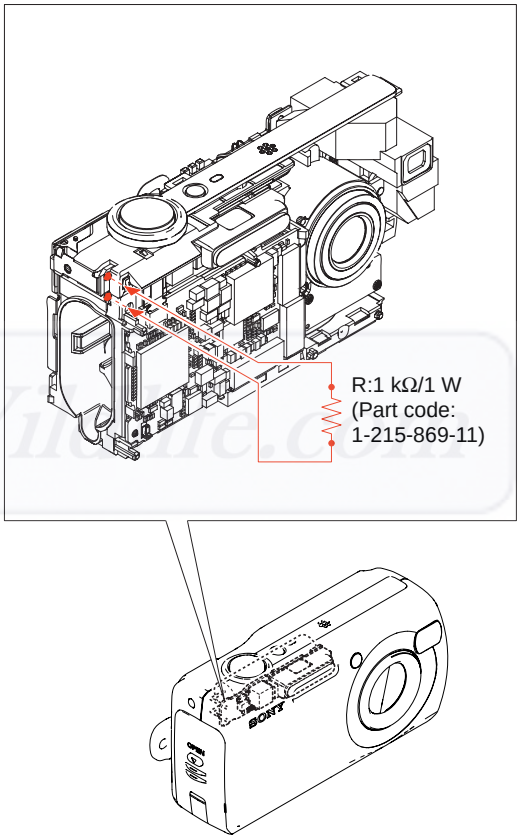
Preparing the Short Jig

To preparing the short jig, a small clip is attached to each end of a resistor of 1 kΩ /1 W (1-215-869-11).
Wrap insulating tape fully around the leads of the resistor to prevent electrical shock.



Discharging the Capacitor

Short-circuit between the positive and the negative terminals of charged capacitor with the short jig about 10 seconds.



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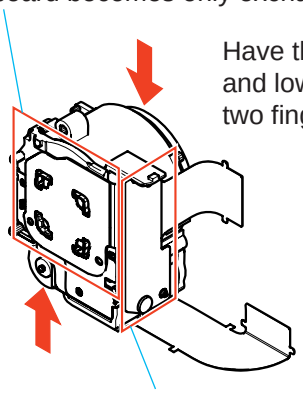
1-3. THE CAUTIONS AT THE TIME OF LENS BLOCK HANDLING

In case you deal with a lens block, be careful of the following things.

CD-575 flexible board is integrated with the lens block.
Do not touch or separate the CD board.
CD-575 flexible board becomes only exchange by lens block.



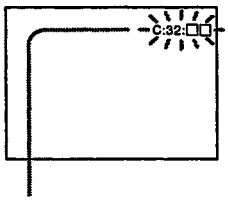
Have the portion of upper and lower arrows with two fingers.

Touch the flexible board of motor side recklessly or don't bend it., because the mounted chip parts could be peeled if the flexible board is curved.

1-4. DESCRIPTION ON SELF-DIAGNOSIS DISPLAY

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with five-digits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The five-digits display informs you of the camera's current condition. The last two digits (indicated by ☐☐) will differ depending on the state of the camera.



Self-diagnosis display

- C: ☐☐: ☐☐
  You can reverse the camera malfunction yourself. (However, contact your Sony dealer or local authorized Sony service facility when you cannot recover from the camera malfunction.)
- E: ☐☐: ☐☐
  Contact your Sony dealer or local authorized Sony service facility.

Display Code	Countermeasure	Cause	Caution Display During Error
C:32:☐☐	Turn the power off and on again.	Trouble with hardware.	SYSTEM ERROR
C:13:☐☐	Format the "Memory Stick" or internal memory.	"Memory Stick" or internal memory is unformatted.	FORMAT ERROR
	Insert a new "Memory Stick".	"Memory Stick" is broken.	MEMORY STICK ERROR
	Turn the power off and on again.	Trouble with internal memory.	INTERNAL MEMORY ERROR
E:61:☐☐	Checking of lens drive circuit.	When failed in the focus and zoom initialization.	—
E:91:☐☐	Checking of flash unit or replacement of flash unit. (Note)	Abnormality when flash is being charged.	
E:92:☐☐	Insert batteries correctly.	Batteries are not inserted correctly.	

Note: After repair, be sure to perfom "1-6. PROCESS AFTER FIXING FLASH ERROR".

1-5. METHOD FOR COPYING OR ERASING THE DATA IN INTERNAL MEMORY

The data can be copied/erased by the operations on the Setup screen. (When erasing the data, execute formatting the internal memory.)

Note: 1 When replacing the SY-116 board, erase the data in internal memory of the board before replacement.
Note: 2 When replacing the SY-116 board or the IC1401 on the SY-116 board, execute formatting and initialize the internal memory after replacement.

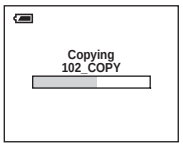
Method for Copying the Data in Internal Memory

Copy

Copies all images in the internal memory to a “Memory Stick”.

	OK	See the following procedure.
✓	Cancel	Cancels the copying.

① Insert a “Memory Stick” having 32 MB or larger capacity.
② Select [OK] with ▲ on the control button, then press ●.
The message “All data in internal memory will be copied Ready?” appears.
③ Select [OK] with ▲ , then press ●.
Copying starts.



- Use batteries with enough capacity or the AC Adaptor (not supplied). If you attempt to copy image files using batteries with little remaining capacity, the batteries may run out, causing copying to fail or possibly corrupting the data.
- You cannot copy individual images.
- The original images in the internal memory are retained even after copying. To delete the contents of the internal memory, remove the “Memory Stick” after copying, then execute the [Format] command in Internal Memory Tool.
- You cannot select a folder copied on a “Memory Stick”.
- The setting of (Print order) marks is not copied even when you copy data.

Method for Formatting the Internal Memory

Format

Formats the internal memory.

- Note that formatting irrevocably erases all data in the internal memory, including even protected images.

	OK	See the following procedure.
✓	Cancel	Cancels the formatting.

① Select [OK] with ▲ on the control button, then press ●.
The message “All data in internal memory will be erased Ready?” appears.
② Select [OK] with ▲, then press ●.
The format is complete.

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1-6. PROCESS AFTER FIXING FLASH ERROR

When “FLASH error” (Self-diagnosis Code E : 91 : **) occurs, to prevent any abnormal situation caused by high voltage, setting of the flash is changed automatically to disabling charge and flash setting.
After fixing, this setting needs to be deactivated. Flash error code can be initialized by the operations on the Setup screen.

Method for Initializing the Flash Error Code

Initialize

Initializes the setting to the default setting.

	OK	See the following procedure.
✓	Cancel	Cancels the resetting.

① Select [OK] with ▲ on the control button, then press ●.
The message “Initialize all settings Ready?” appears.

② Select [OK] with ▲, then press ●.
The settings are reset to the default setting.

- Make sure that the power is not disconnected during resetting.

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2. DISASSEMBLY

Link

DISASSEMBLY	SERVICE POSITION
THE METHOD OF ATTACHMENT OF FP-176 FLEXIBLE BOARD	
CIRCUIT BOARDS LOCATION	HELP

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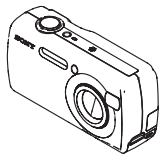
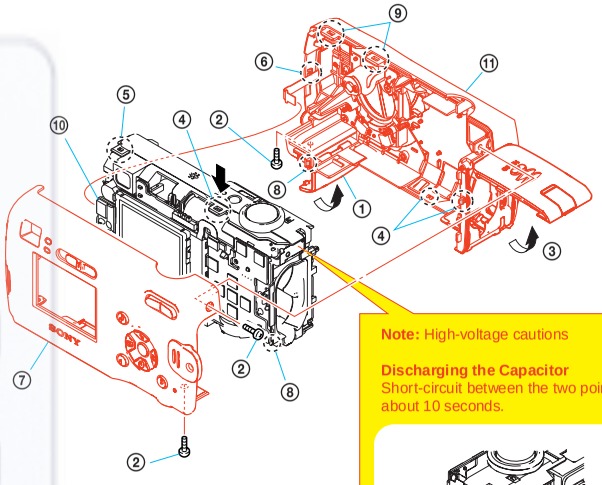
2. DISASSEMBLY

HELP

The following flow chart shows the disassembly procedure.

2-1. DISASSEMBLY

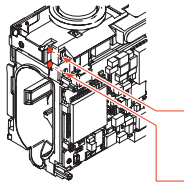




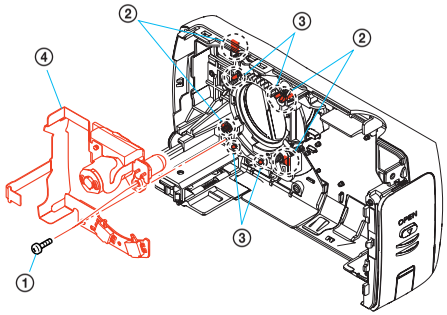
① Open the MS lid.
② Screw *x3*
③ Open the BT lid.
④ Claw *x3*
⑤ Claw *x1*
⑥ Claw *x1*
⑦ Cabinet (rear) block
⑧ Claw *x2*
⑨ Claw *x2*
⑩ Connector: CN003
⑪ Cabinet (front) block

Note: High-voltage cautions

Discharging the Capacitor
Short-circuit between the two points with the short jig about 10 seconds.

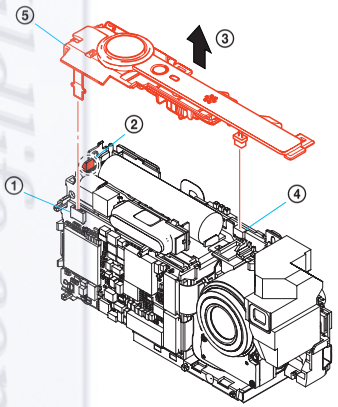


R:1 kΩ/1 W
(Part code:
1-215-869-11)

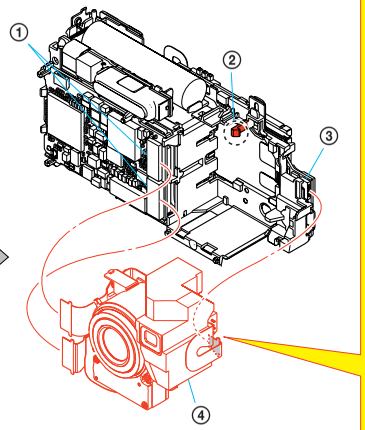


① Screw *x2*
② Claw *x4*
③ Boss *x4*
④ FP-176 flexible board

When you disassemble the FP-176 flexible board, assemble with refer to page 2-7 " The method of attachment of FP-176 flexible board ".



① Connector: CN501
② Claw *x1*
③ Rifting up the cabinet (upper) block.
④ Connector: CN004
⑤ Cabinet (upper) block

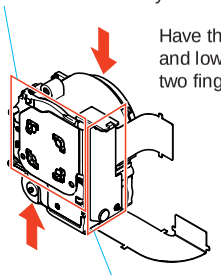


① Connector *x2*: CN201, 401
② Claw *x1*
③ Connector: CN002
④ Lens block

Note: The cautions at the time of lens block handling

In case you deal with a lens block,
be careful of the following things.

CD-575 flexible board is integrated with the lens block.
Do not touch or separate the CD board.
CD-575 flexible board becomes only exchange by lens block.



Have the portion of upper and lower arrows with two fingers.

Touch the flexible board of motor side recklessly or don't bend it., because the mounted chip parts could be peeled if the flexible board is curved.

to Page 2-3

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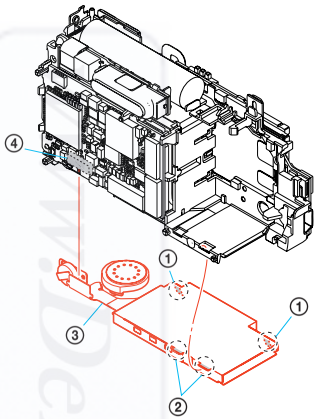
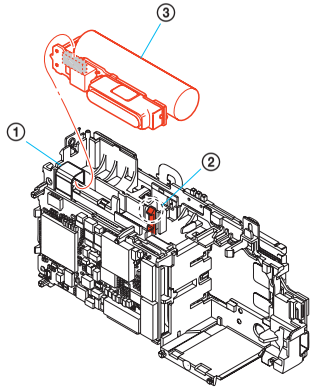
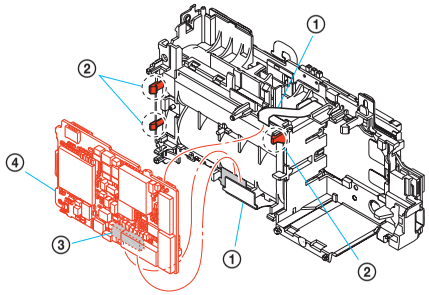
from Page 2-2



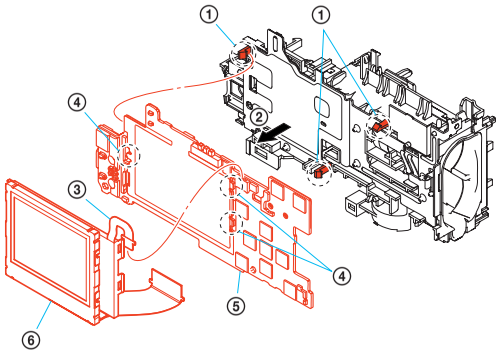
① Claw *x2*
② Hook *x2*
③ Memory stick conector
④ Connector: CN505



① Flexible board: CN506
② Claw *x1*
③ ST-116 board



① Flexible bord *x2*: CN502, 503
② Claw *x3*
③ Connector: CN504
④ SY-116 board



① Claw *x3*
② Remove the SW board section.
③ Flexible board: CN006
④ Claw *x3*
⑤ SW-437 board
⑤ D901, LCD901

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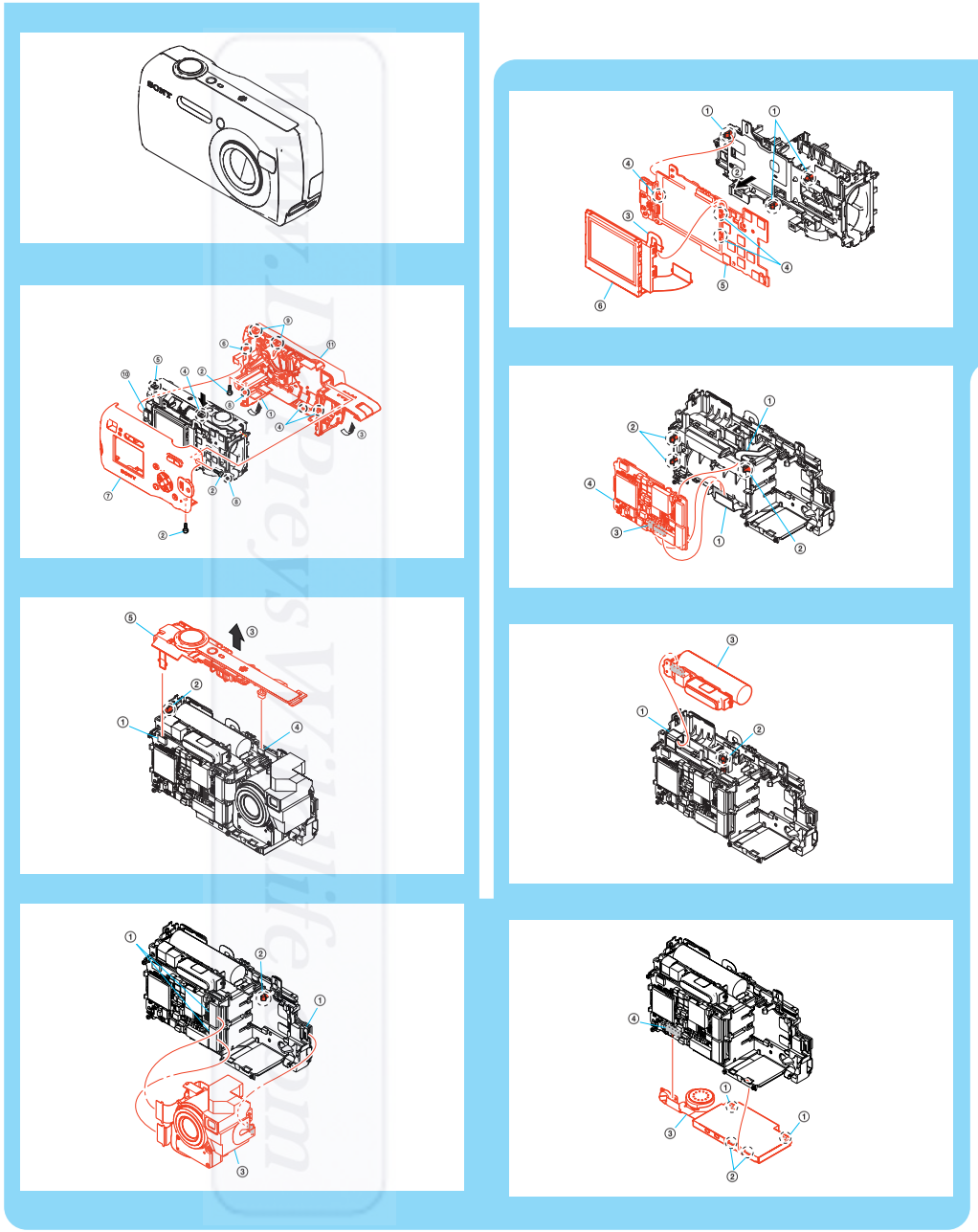
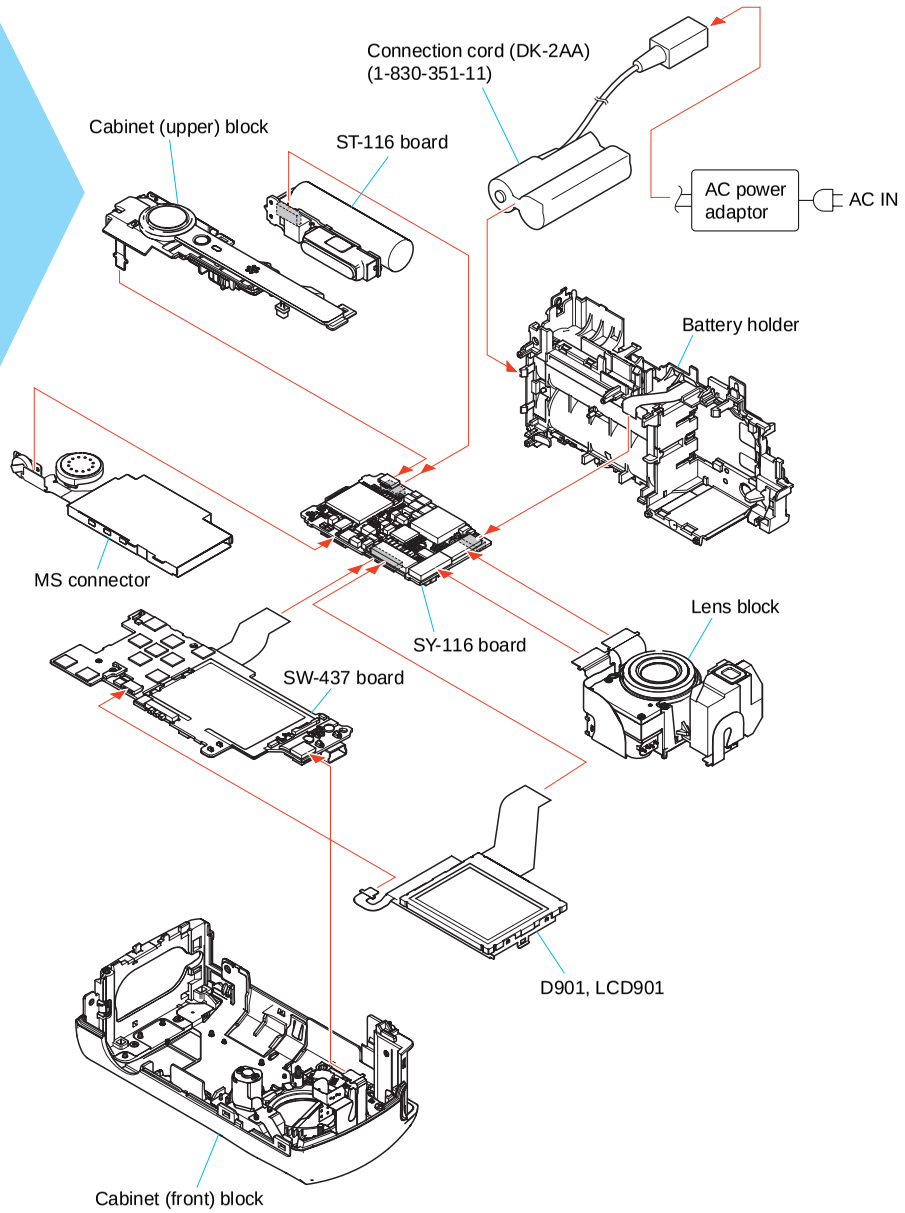
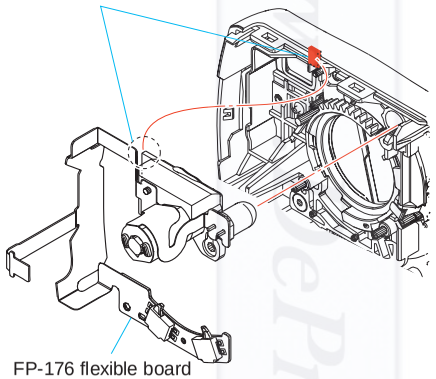
2-2. SY-116 BOARD SERVICE POSITION



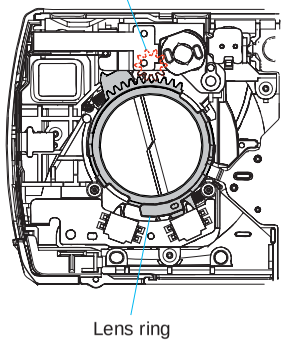


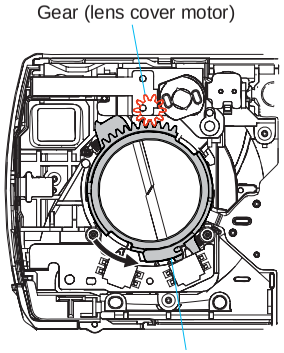
2-3. THE METHOD OF ATTACHMENT OF FP-176 FLEXIBLE BOARD

① Insert the plate of lens cover motor in the slot on the front cabinet.



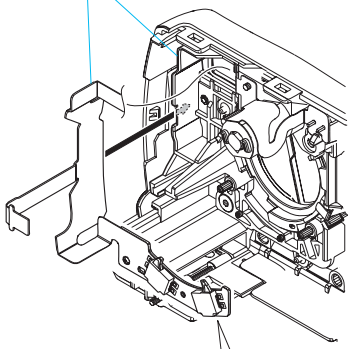
② Insert the gear of lens cover motor, as you don't collide with the gear of lens cover.

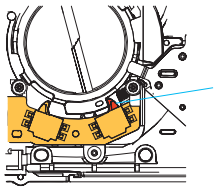


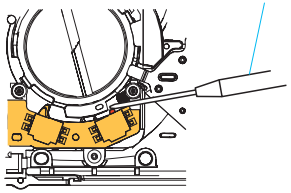


③ As you make the rotate the lens ring in the direction of arrow, engage with the gear of lens cover motor.

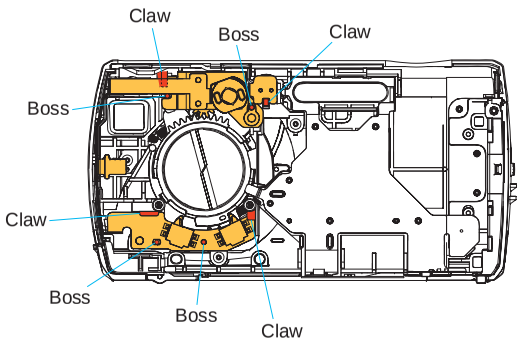
④ Insert the flexible board in the slot on the front cabinet.



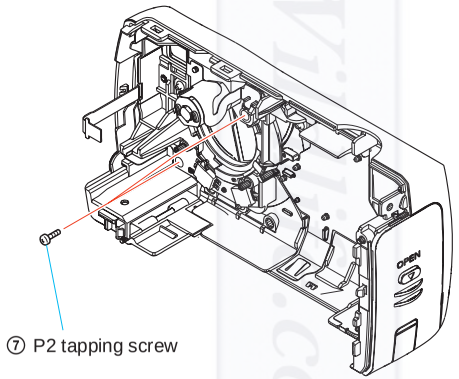




⑤ Assemble after pushing up the S002 of FP-176 flexible board upwards. If it assembles then, the tip of S002 will break.



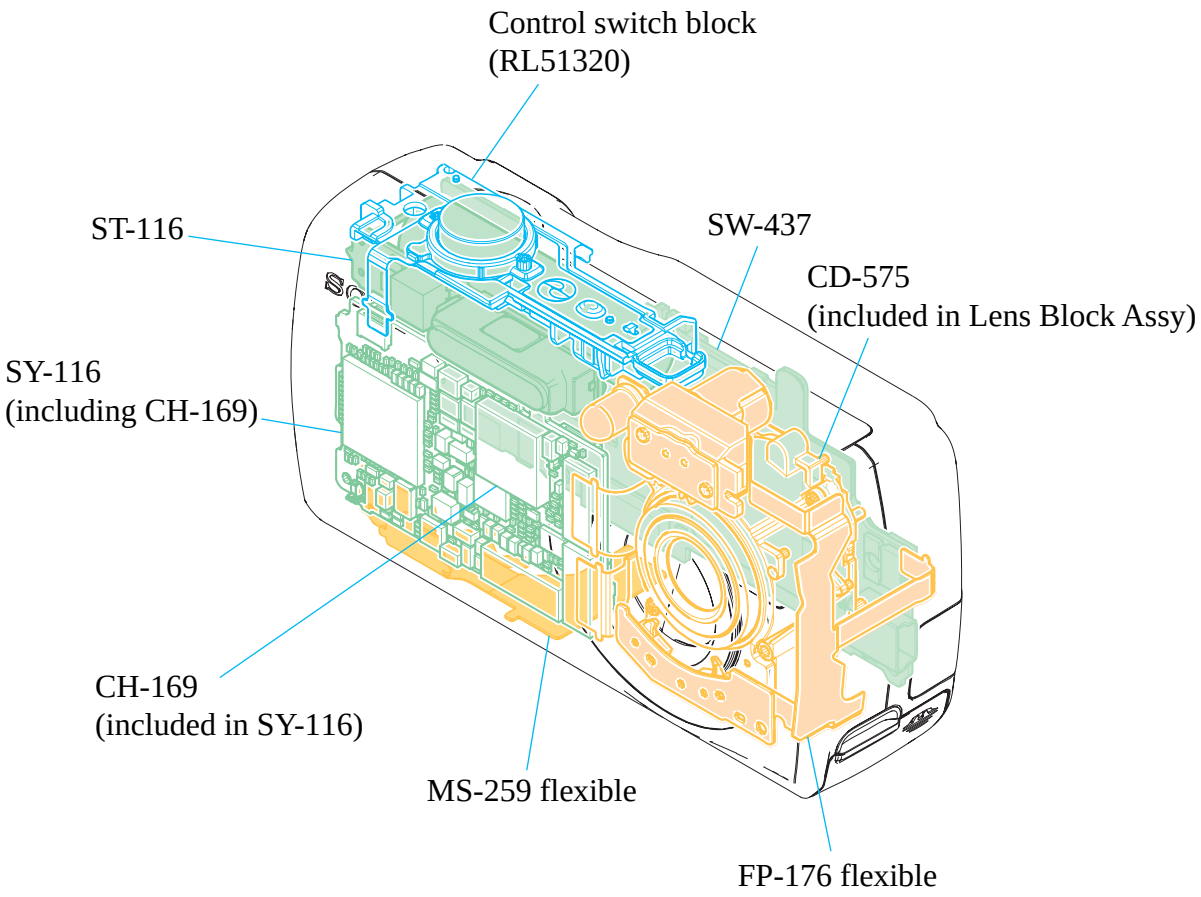
⑥ Check that the FP-176 flexible board has fitted into four claws and four bosses exactly.



⑦ P2 tapping screw

www.ServicePrevs.com

2-4. CIRCUIT BOARDS LOCATION



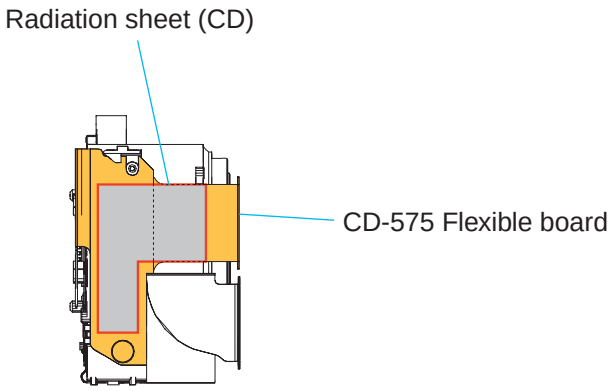
Board Name	Function
CH-169 (included in SY-116)	CCD SIGNAL PROCESS
CD-575 (included in Lens Block Assy)	CCD IMAGER
FP-176 flexible	LENS COVER MOTOR
MS-259 flexible	MEMORY STICK CONNECTOR
ST-116	FLASH DRIVE
SW-437	CONTROL SWITCH
SY-116 (CH-169 board))	CAMERA MODULE, CAMERA DSP, CPU, LENS DRIVE, BURST FLASH, SDRAM, AND FLASH, AUDIO, DC/DC CONVERTER, CONNECTOR, LCD PANEL

www.DefectiveWildlife.com

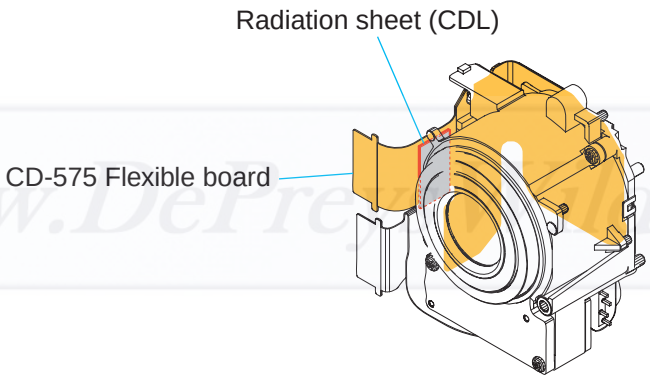
HELP

Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

When affixing the radiation sheet (CD), take care not to apply excessive force to the sheet (CD) because the chip parts mounted on the CD-575 flexible board could be peeled off.



When turning over the CD-575 flexible board to affix the radiation sheet (CDL), take care not to turn it over strongly because the chip parts mounted on the CD-575 flexible board could be peeled off.



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3. BLOCK DIAGRAMS

Link

- OVERALL BLOCK DIAGRAM (1/2)
- POWER BLOCK DIAGRAM
- OVERALL BLOCK DIAGRAM (2/2)

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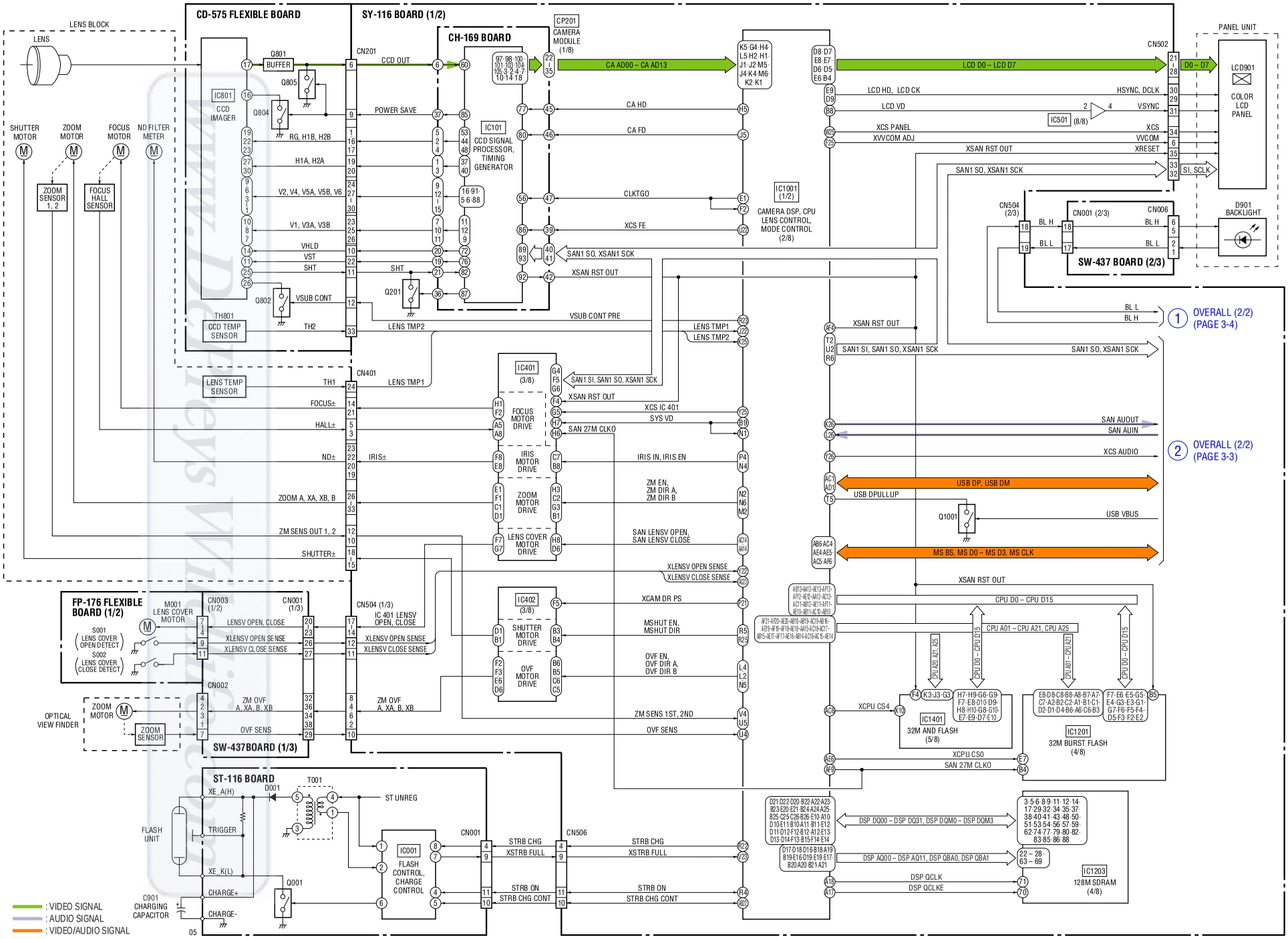
3. BLOCK DIAGRAMS

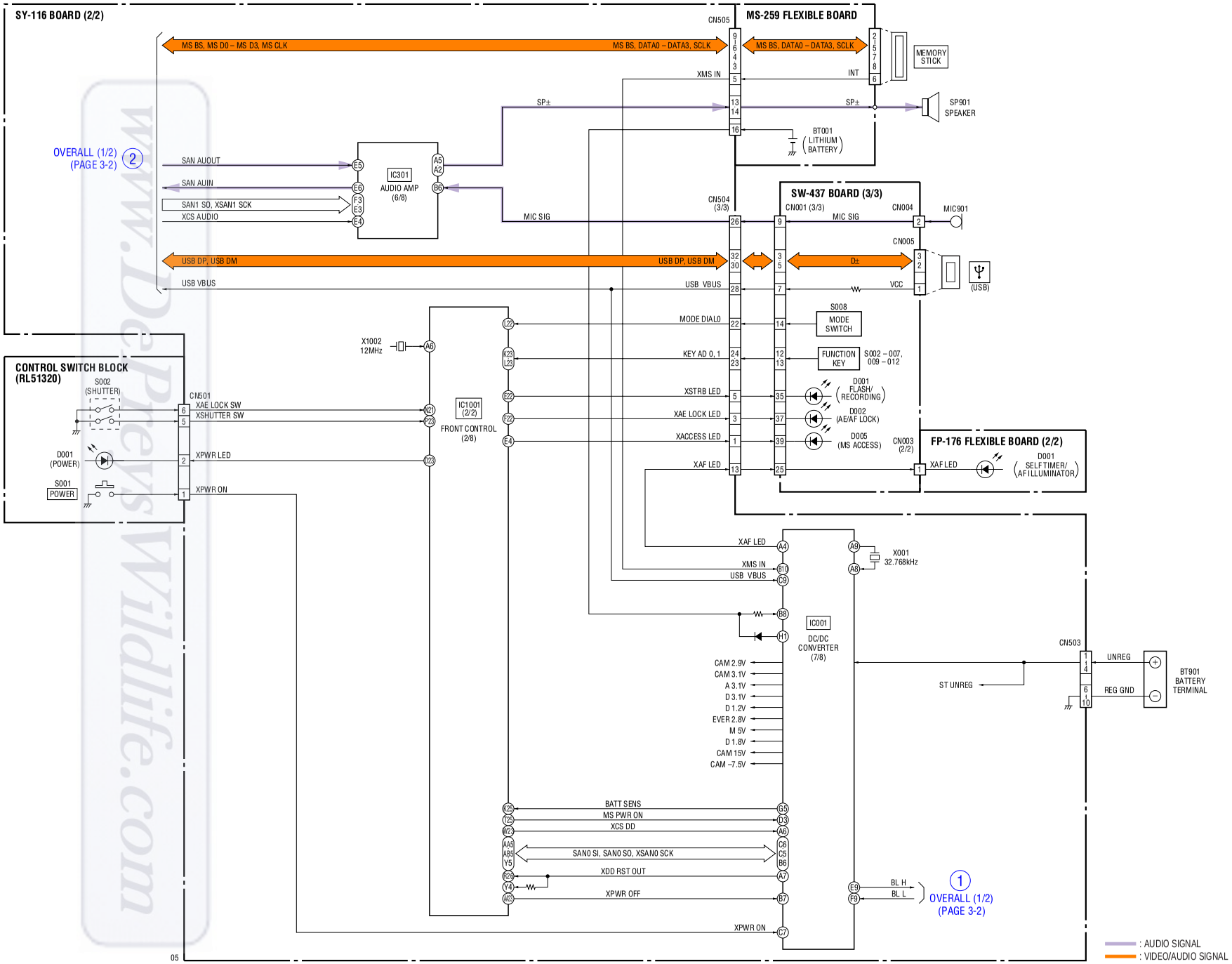
3-1. OVERALL BLOCK DIAGRAM (1/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



3-2. OVERALL BLOCK DIAGRAM (2/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



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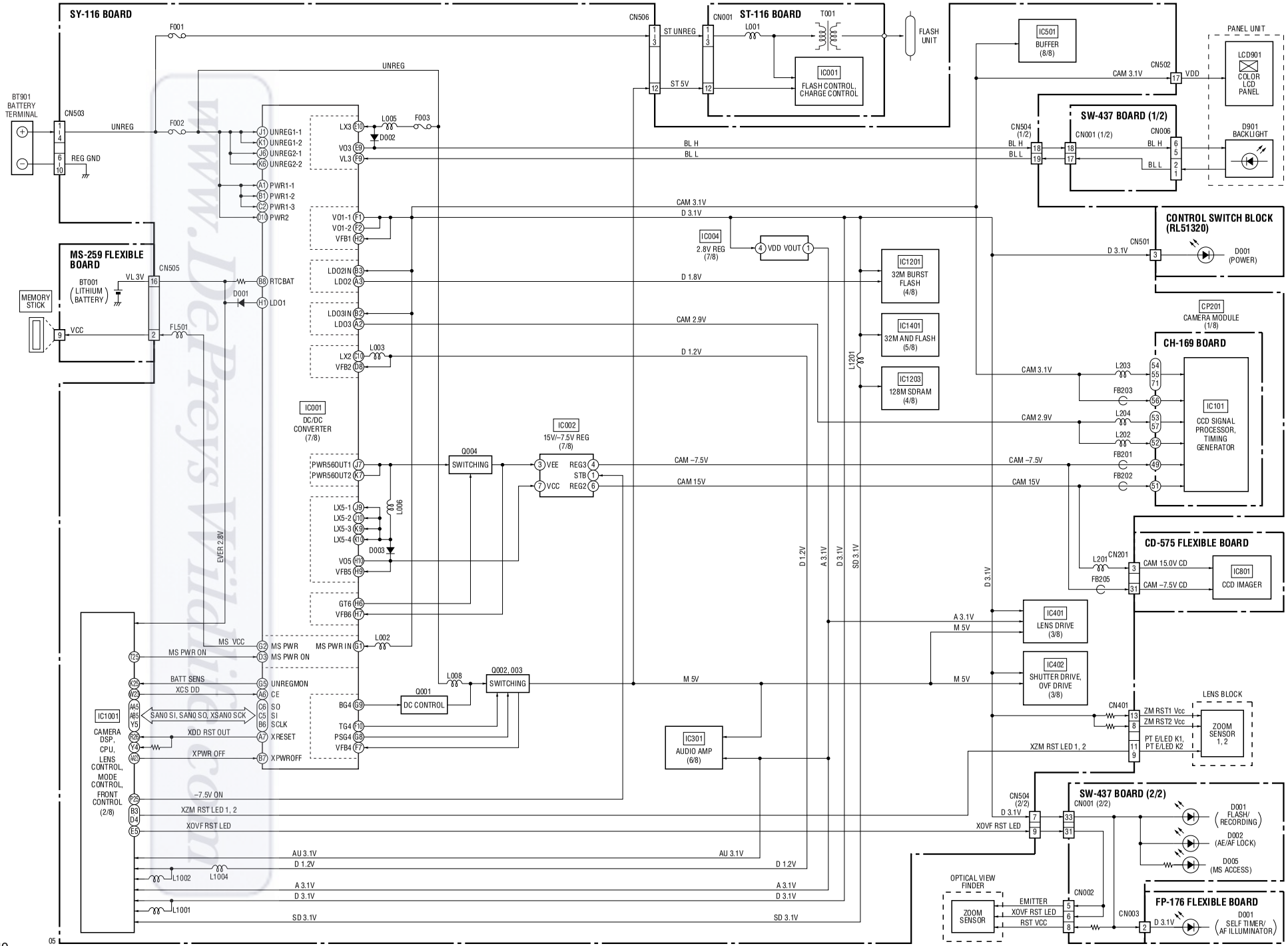
3-3. POWER BLOCK DIAGRAM ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



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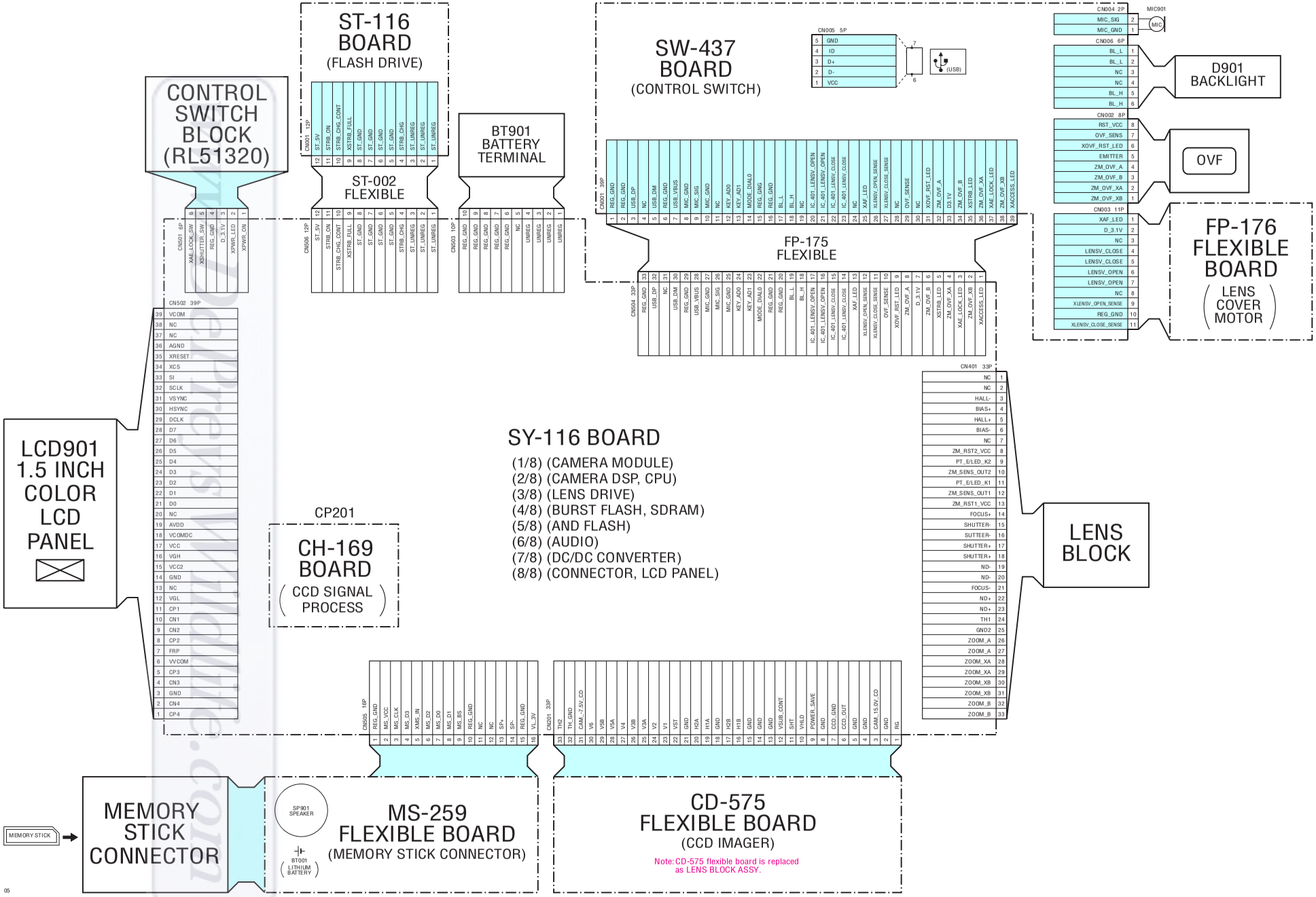
4-1. FRAME SCHEMATIC DIAGRAM



4-2. SCHEMATIC DIAGRAMS

Link

- CD-575 FLEXIBLE BOARD (CCD IMAGER)
- MS-259 FLEXIBLE (MEMORY STICK CONNECTOR)
- SW-437 BOARD (CONTROL SWITCH)
- FP-176 FLEXIBLE BOARD (LENS COVER MOTOR)
- ST-116 BOARD (FLASH DRIVE)
- CONTROL SWITCH BLOCK (RL51320)
- COMMON NOTE FOR SCHEMATIC DIAGRAMS

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4-2. SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μμF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

  Example C541 22U TA A — L452 10UH 2520

  Kinds of capacitor / Case size — External dimensions (mm)
- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination.
  Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line
- : B– Line
- : IN/OUT direction of (+,–) B LINE.
- : adjustment for repair.
- : not use circuit
- Circled numbers refer to waveforms.

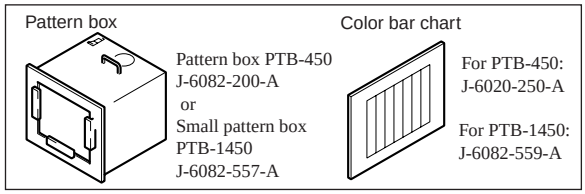
(Measuring conditions voltage and waveform)

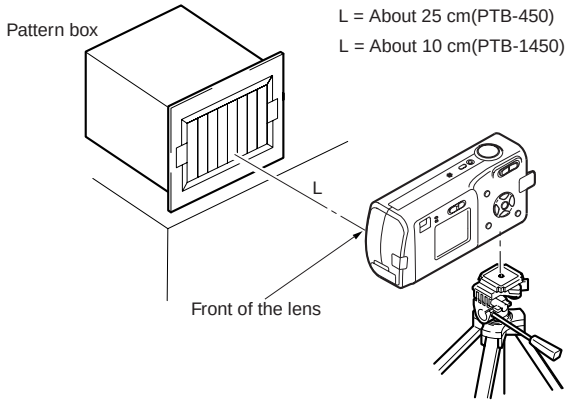
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

Precautions for Replacement of Lens Block (CCD Imager)

- If the lens block (CCD imager) has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC. In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

1. Connection





2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

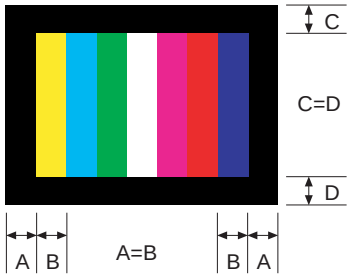


Fig.a (Picture on LCD display)

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

www.SonyServiceManuals.com

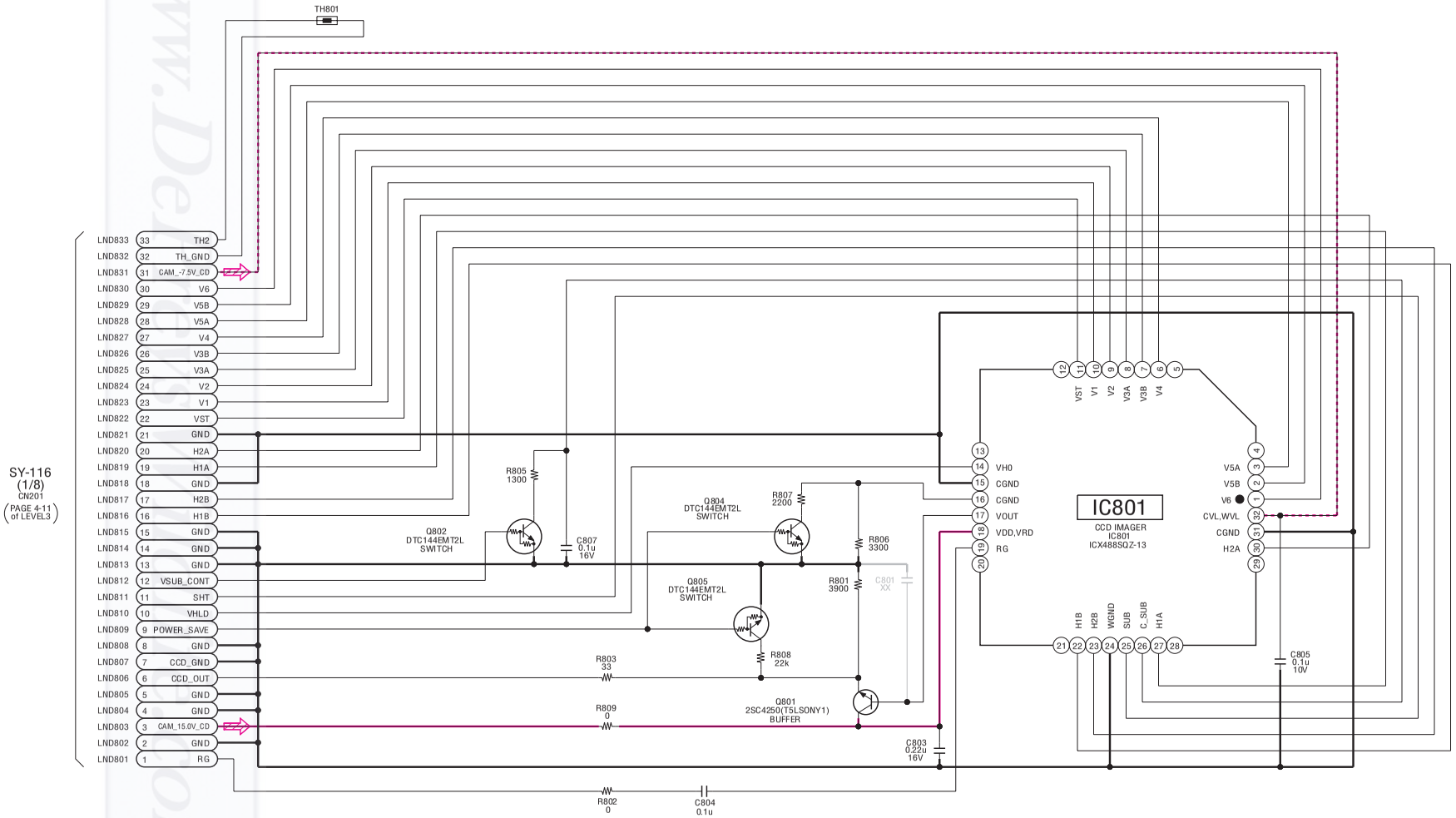
CD-575 FLEXIBLE BOARD

CCD IMAGER

XX MARK:NO MOUNT

Note: CD-575 flexible board is replaced as LENS BLOCK ASSY, so that PRINTED WIRING BOARD is omitted.

Note: Voltage and Waveform of mounted parts on CD-575 flexible board can not be measured, because adhesion of a lens block and CD-575 flexible board may separate.



Note: Be sure to read "Precautions for Replacement of Lens Block (CCD Imager)" on page 4-5, when changing the Lens Block (CCD imager).

Note: Cautions are required for the handling of lens block. Refer to "THE CAUTIONS AT THE TIME OF LENS BLOCK HANDLING" on page 1-2, when you exchange.

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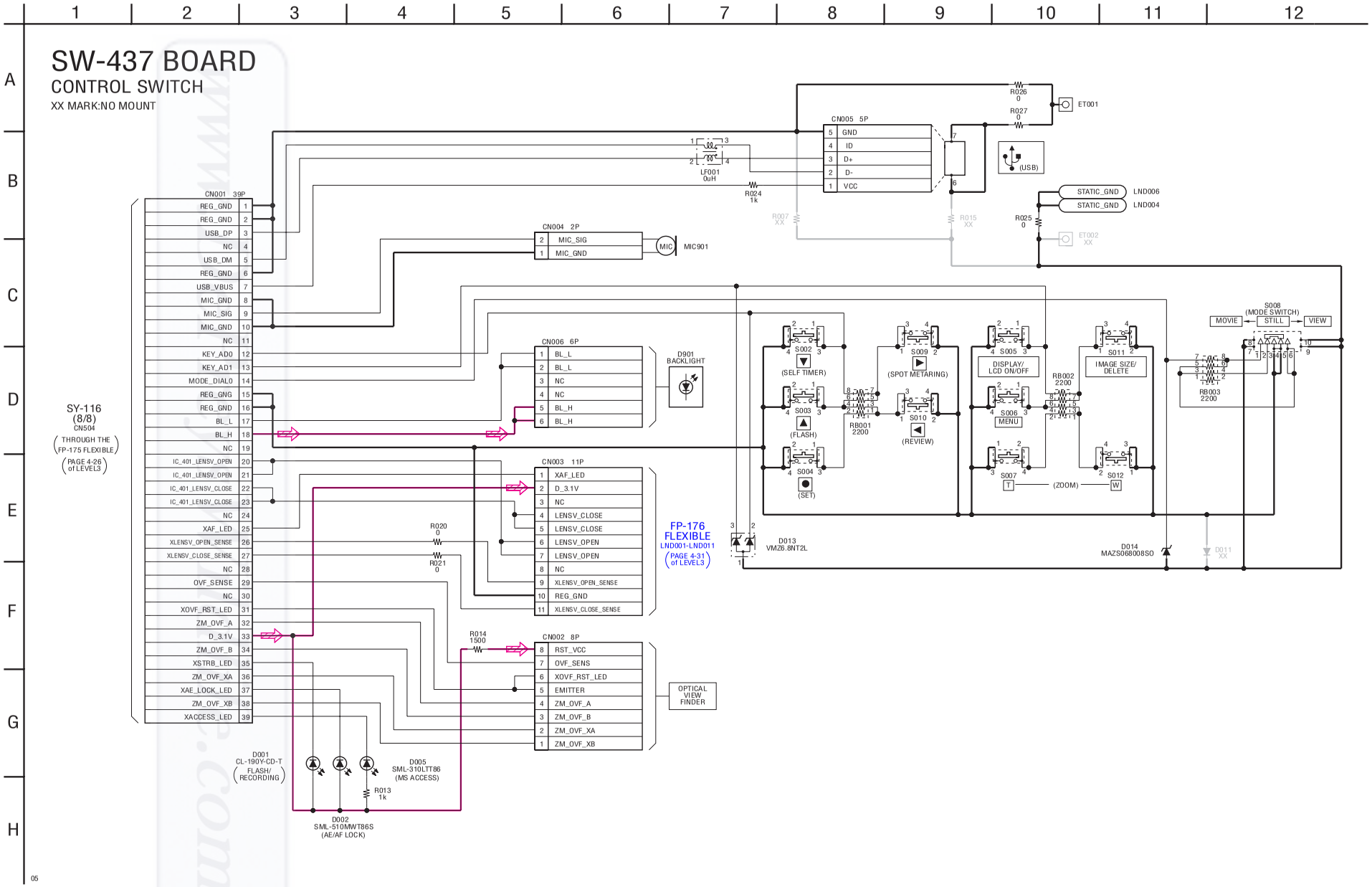
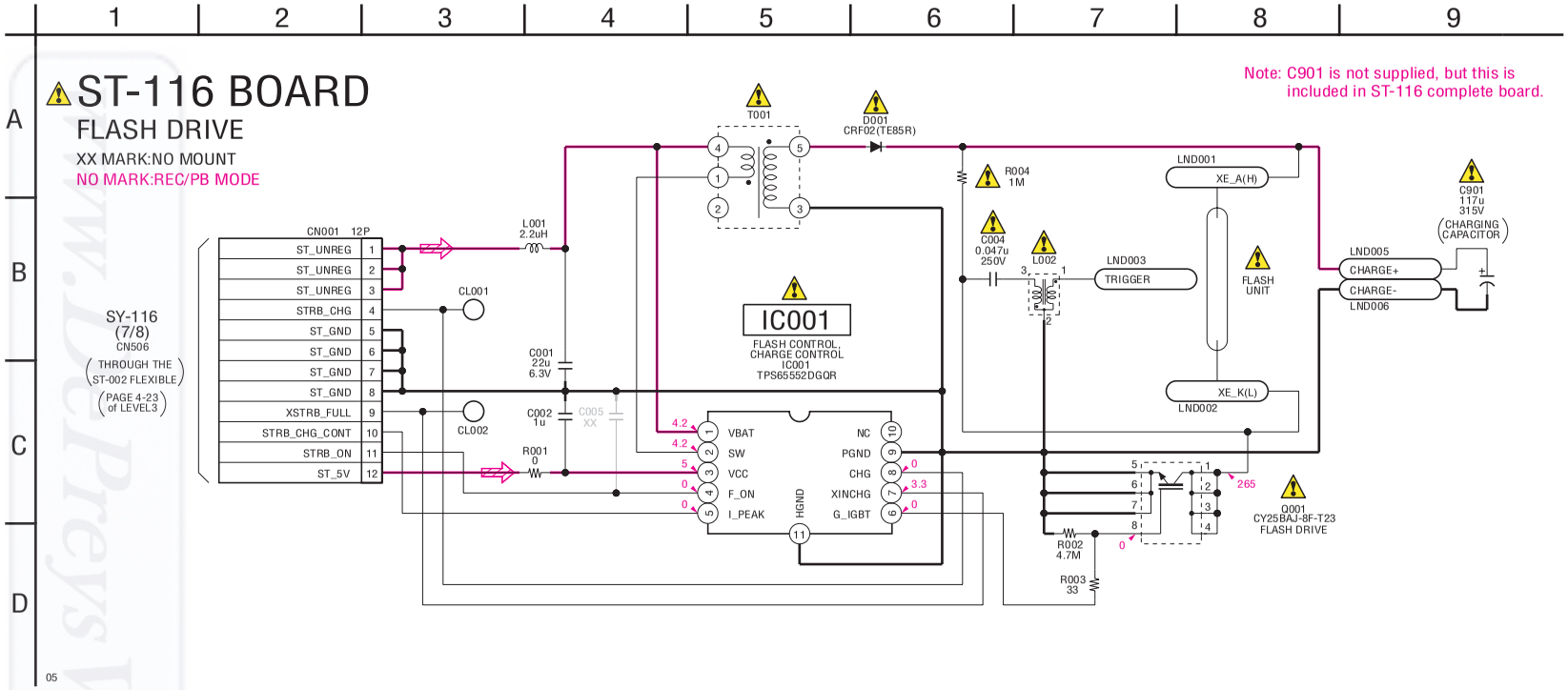
Schematic diagrams of the CH-169 and SY-116 boards are not shown.
Pages from 4-9 to 4-26 are not shown.

For Schematic Diagram

• Refer to page 4-41 or 4-44 for printed wiring board.



For Schematic Diagram
• Refer to page 4-45 for printed wiring board.



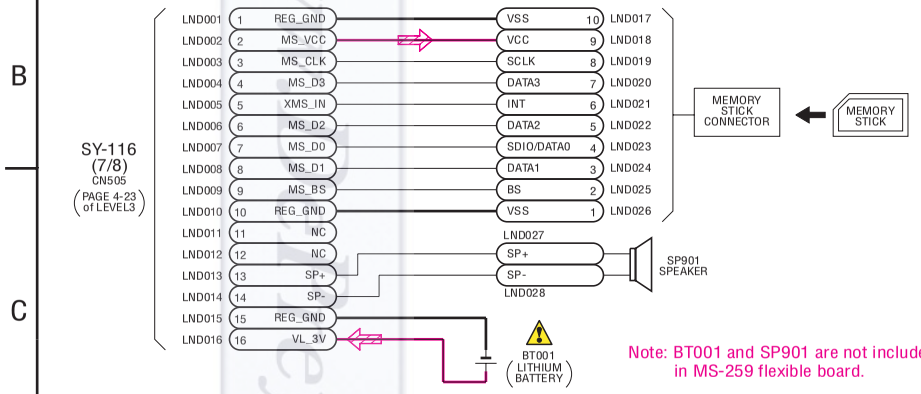
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

For Schematic Diagram
• Refer to page 4-46 for printed wiring board.

MS-259 FLEXIBLE BOARD

MEMORY STICK CONNECTOR

XX MARK:NO MOUNT

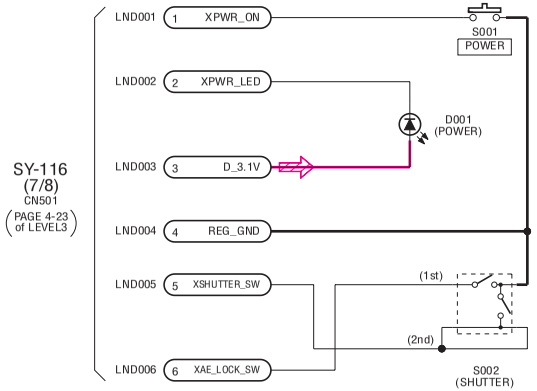


Note: BT001 and SP901 are not included in MS-259 flexible board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

CONTROL SWITCH BLOCK (RL51320)

(CONTROL SWITCH BLOCK (RL51320) is replaced as block, so that PRINTED WIRING BOARD is omitted.)

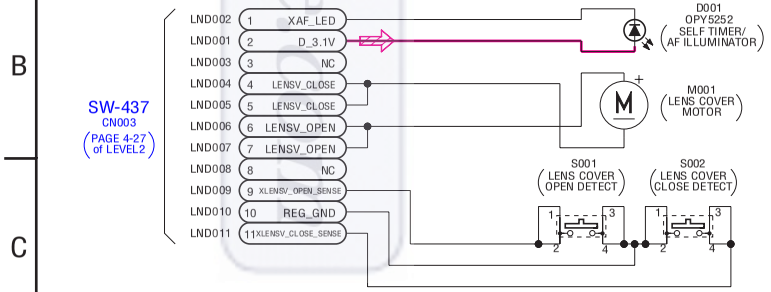


For Schematic Diagram
• Refer to page 4-47 for printed wiring board.

FP-176 FLEXIBLE BOARD

LENS COVER MOTOR

XX MARK:NO MOUNT



4-3. PRINTED WIRING BOARDS

Link

- SW-437 BOARD
- MS-259 FLEXIBLE BOARD
- ST-116 BOARD
- FP-176 FLEXIBLE BOARD

- COMMON NOTE FOR PRINTED WIRING BOARDS
- MOUNTED PARTS LOCATION
- CIRCUIT BOARDS LOCATION

Board Name	Function
SW-437	CONTROL SWITCH
ST-116	FLASH DRIVE
MS-259 FLEXIBLE	MEMORY STICK CONNECTOR
FP-176 FLEXIBLE	LENS COVER MOTOR

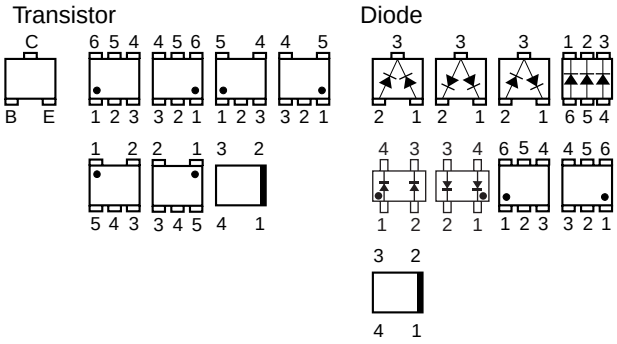
www.DePreysWildlife.com

4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

- : Uses unleaded solder.
- : Circuit board
  : Flexible board
  Pattern from the side which enables seeing.
  : pattern of the rear side
  (The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- : panel designation

- Chip parts.



Board Name	Parts Location (Shown on Page)	Pattern	
		Total Number of Layers	Layers Not Indicated
SW-437	4-51	2 layers	–
ST-116	4-51	2 layers	–
MS-259 flexible	–	1 layer	–
FP-176 flexible	–	1 layer	–

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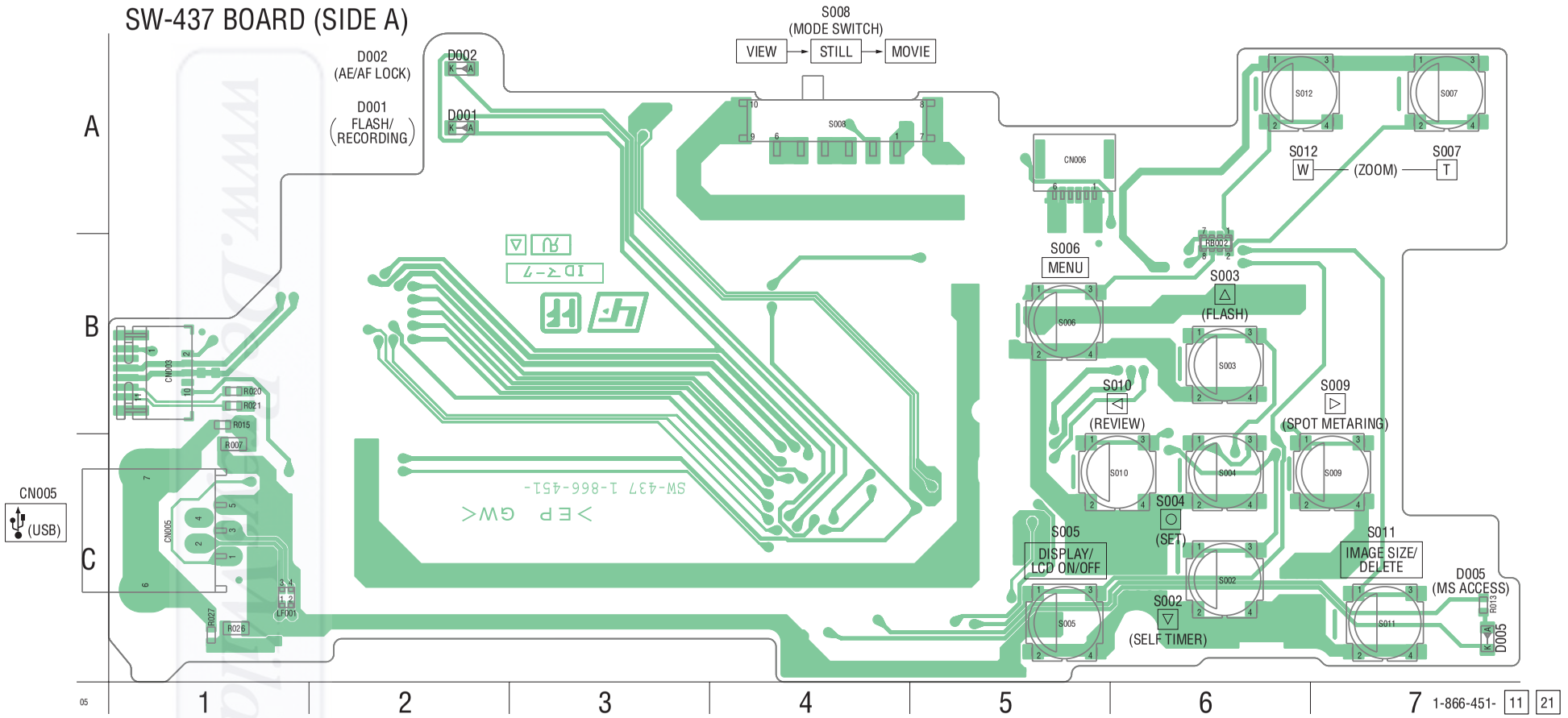
www.DePreysWildlife.com

Printed wiring boards of the CH-169 and SY-116 boards are not shown.
Pages from 4-37 to 4-40 are not shown.

SW-437

Note for Printed Wiring Board (See page 4-35).

: Uses unleaded solder.



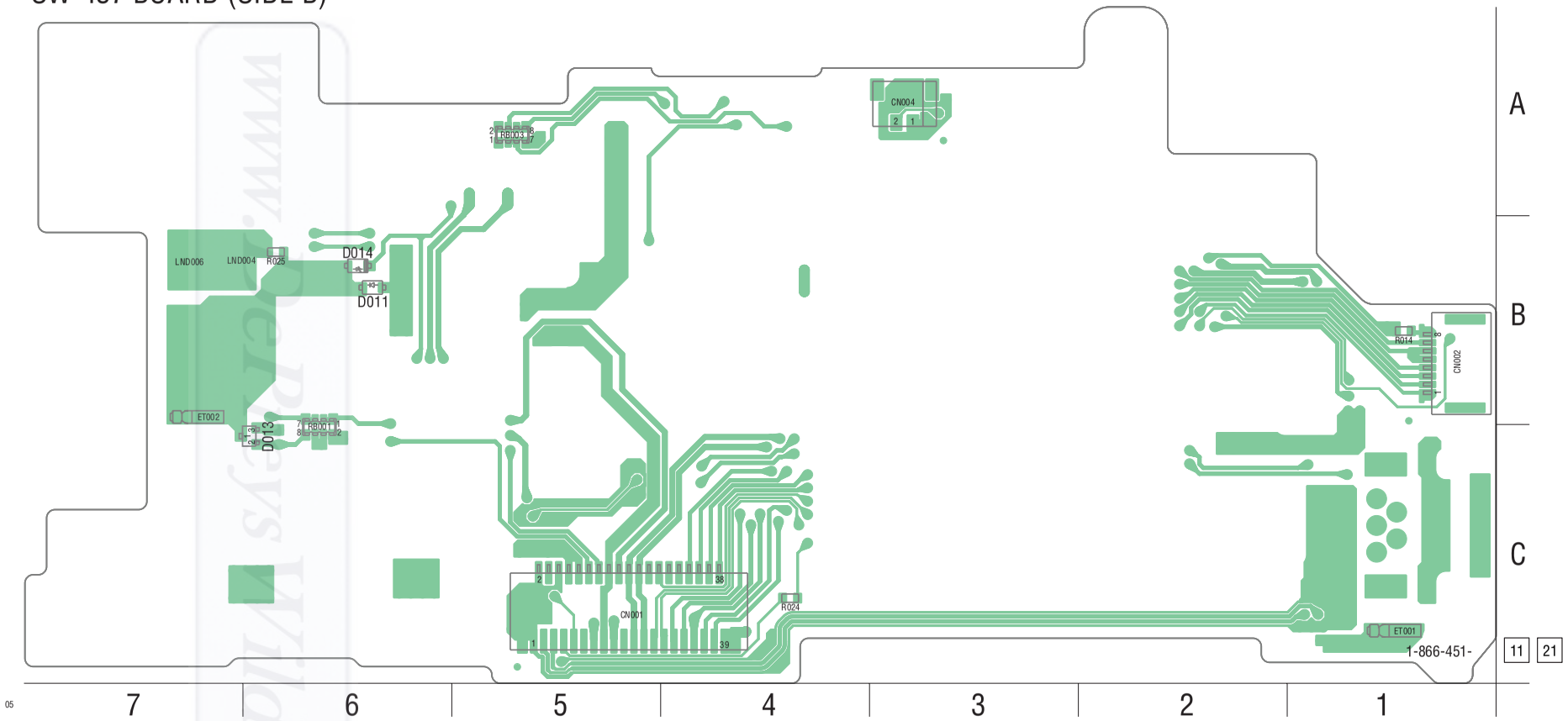
www.DataSheet4U.com

SW-437

Note for Printed Wiring Board (See page 4-35).

: Uses unleaded solder.

SW-437 BOARD (SIDE B)



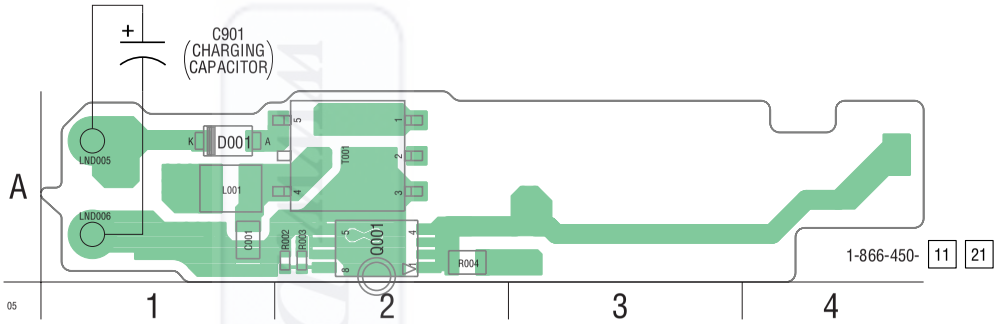
www.freeservicemanuals.com

ST-116

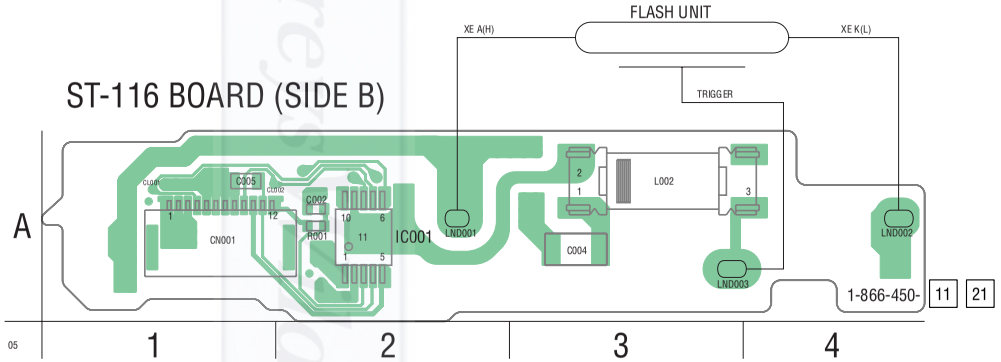
Note for Printed Wiring Board (See page 4-35).

: Uses unleaded solder.

ST-116 BOARD (SIDE A)



ST-116 BOARD (SIDE B)

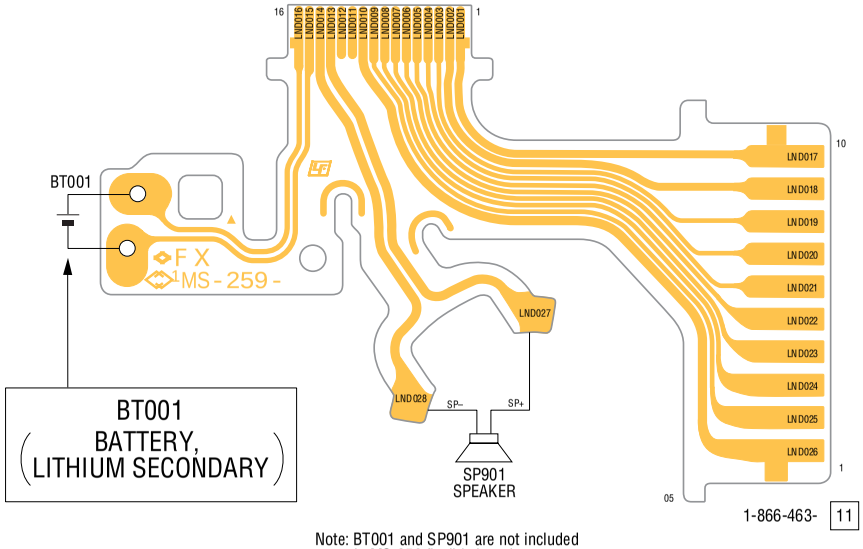


MS-259 FLEXIBLE

Note for Printed Wiring Board (See page 4-35).

: Uses unleaded solder.

MS-259 FLEXIBLE BOARD



BT001
BATTERY,
LITHIUM SECONDARY

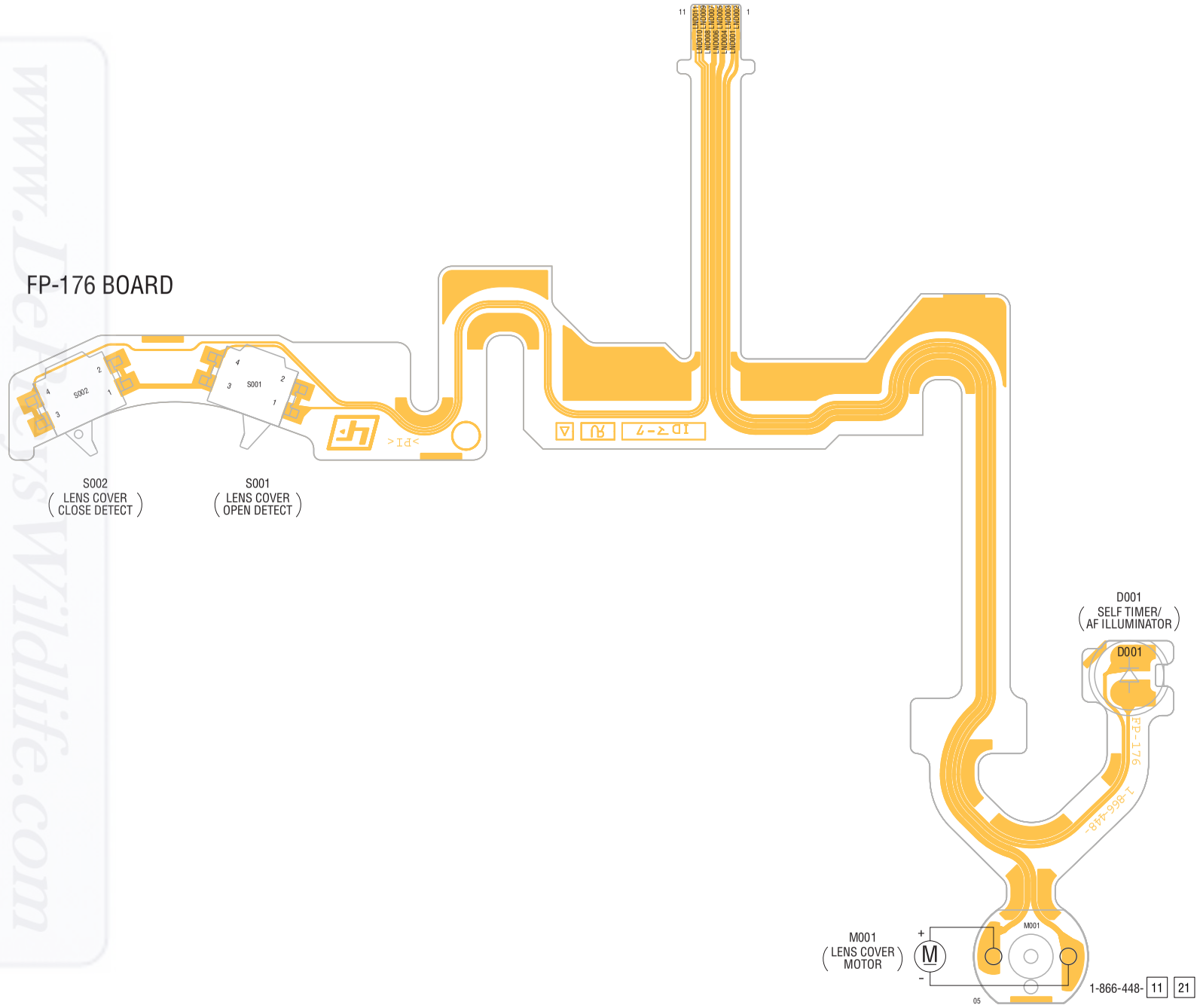
Note: BT001 and SP901 are not included in MS-259 flexible board.

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

www.DecoPrint.com

FP-176 FLEXIBLE

: Uses unleaded solder.



www.DataSheet4U.com

Waveforms of the SY-116 board are not shown.
Page 4-49 is not shown.

www.DePreysWildlife.com

Mounted parts location of the SY-116 board is not shown.
Page 4-50 is not shown.

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4-5. MOUNTED PARTS LOCATION

no mark : side A
* mark : side B

SW-437 BOARD

*	CN001	C-5
*	CN002	B-1
	CN003	B-1
*	CN004	A-3
	CN005	C-1
	CN006	A-5
	D001	A-2
	D002	A-2
	D005	C-7
*	D013	B-6
*	D014	B-6
*	ET001	C-1
	LF001	C-1
	R013	C-7
*	R014	B-1
	R020	B-1
	R021	B-1
*	R024	C-4
*	R025	B-6
	R026	C-1
	R027	C-1
*	RB001	B-6
	RB002	B-6
*	RB003	A-5
	S002	C-6
	S003	B-6
	S004	C-6
	S005	C-5
	S006	B-5
	S007	A-7
	S008	A-4
	S009	C-7
	S010	C-5
	S011	C-7
	S012	A-6

ST-116 BOARD

	C001	A-1
*	C002	A-2
*	C004	A-3
	C901	A-1
*	CN001	A-1
	D001	A-1
*	IC001	A-2
	L001	A-1
*	L002	A-3
	Q001	A-2
*	R001	A-2
	R002	A-2
	R003	A-2
	R004	A-2
	T001	A-2

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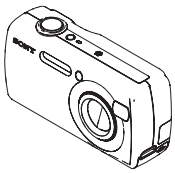
NOTE

5. REPAIR PARTS LIST

NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

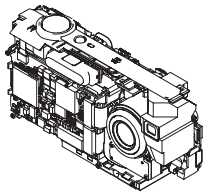
Link

EXPLODED VIEWS



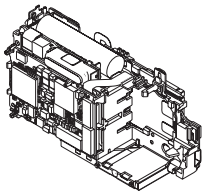
A

OVERALL ASSEMBLY



B

BT HOLDER BLOCK



C

BATTERY HOLDER SECTION

Link

ELECTRICAL PARTS LIST

ACCESSORIES

CD-575 FLEXIBLE BOARD B	MS-259 FLEXIBLE BOARD B	SW-437 BOARD C
FP-176 FLEXIBLE BOARD A	ST-116 BOARD C	

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5. REPAIR PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , µPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  AUS : Australian model
  CH : Chinese model
  CND : Canadian model
  HK : Hong Kong model
  J : Jpanese model
  JE : Tourist model
  KR : Korean model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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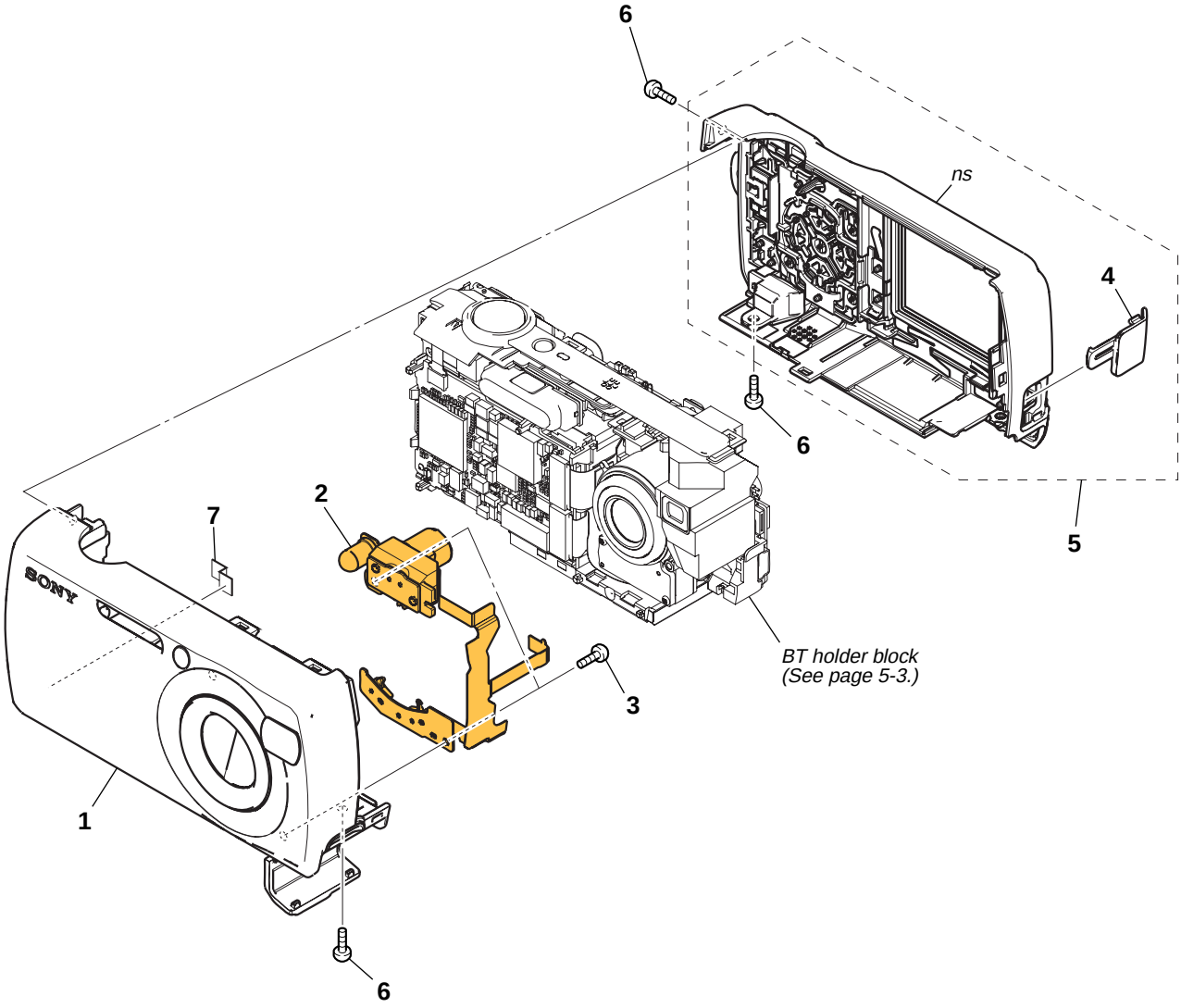
5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL ASSEMBLY

ns: not supplied



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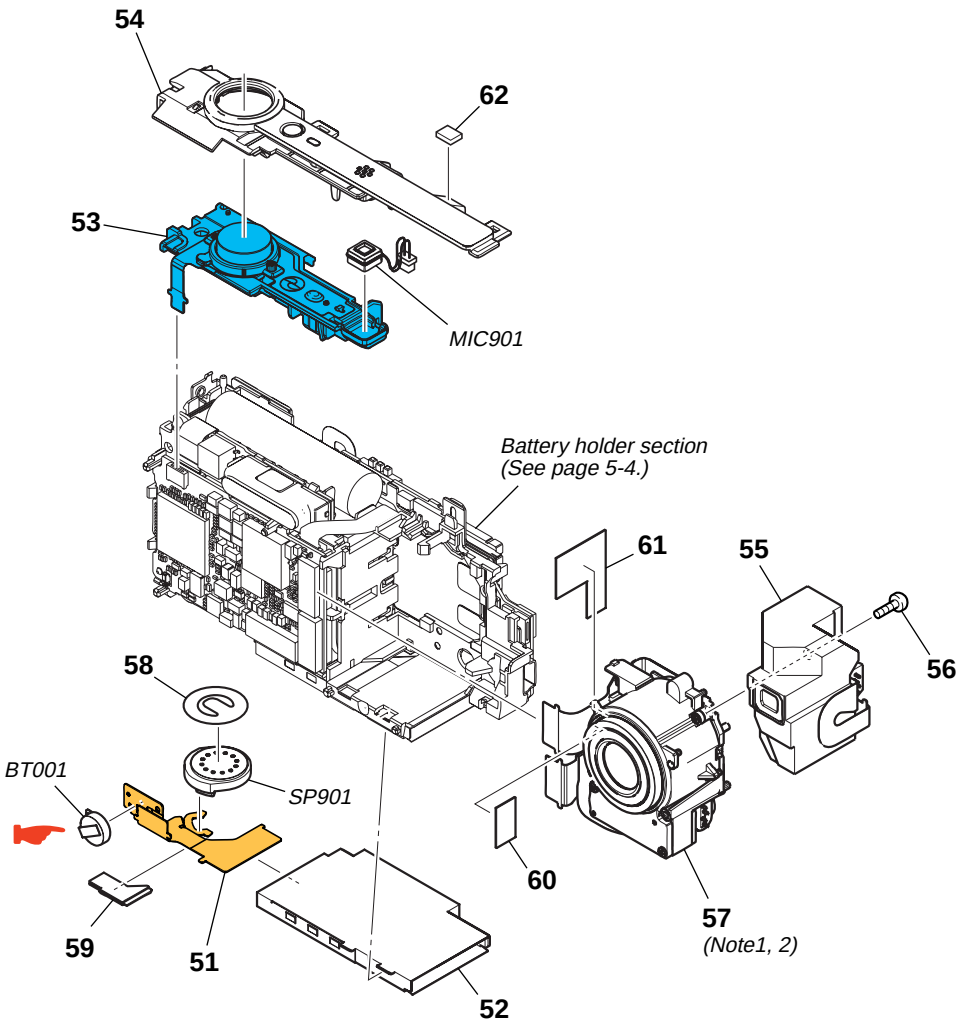
Ref. No.	Part No.	Description
1	X-2055-104-1	CABINET (FRONT) ASSY
2	A-1106-332-A	FP-176 FLEXIBLE BOARD, COMPLETE
3	3-080-204-11	SCREW, TAPPING, P2
4	2-591-764-01	COVER, USB
5	X-2055-105-1	CABINET (REAR) ASSY
6	2-599-475-31	SCREW (M1.7)
7	2-631-076-01	SHEET (SY), INSULATING

5-1-2. BT HOLDER BLOCK



BT001(BATTERY, LITHIUM SECONDARY)
Board on the mount position (See page 4-46).

Note 1: Be sure to read "Precuations for Replacement of Lens Block (CCD Imager)" on page 4-5, when changing the Lens Block (CCD Imager).

Note 2: Cautions are required for the handling of lens block. Refer to "THE CAUTIONS AT THE TIME OF LENS BLOCK HANDLING" on page 1-2, when you exchange.

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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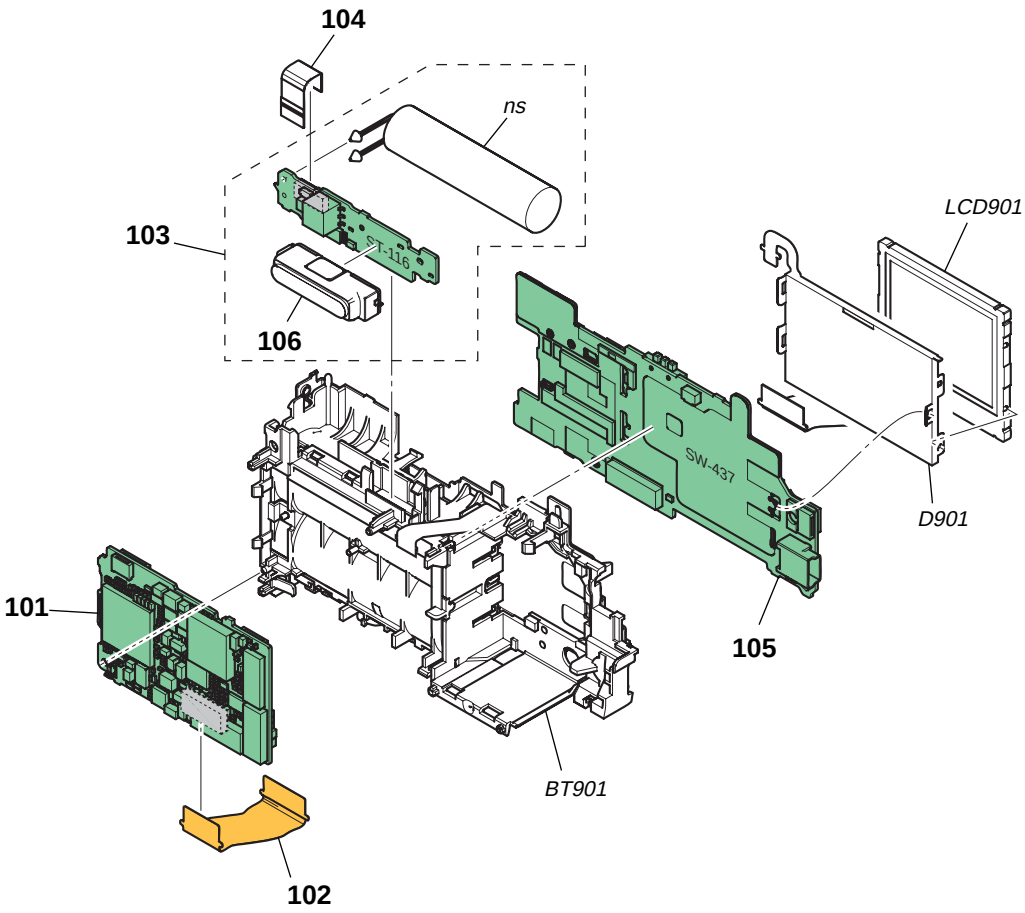
Ref. No.	Part No.	Description
51	1-866-463-11	MS-259 FLEXIBLE BOARD
52	1-815-853-41	MEMORY STICK CONNECTOR
53	1-479-093-11	SWITCH BLOCK, CONTROL (RL51320)
54	X-2055-127-1	CABINET (UPPER) ASSY
55	1-788-228-11	UNIT, OPTICAL (G177)
56	3-078-890-11	SCREW, TAPPING
57	A-1107-919-A	LENS BLOCK ASSY (950B (J1)) (Inclucing CD-575 flexible board) (Note 1, 2)
58	2-595-727-01	SHEET, SP ADHESIVE (SERVICE)
59	2-596-849-01	SHEET (MS), RADIATION
60	2-596-850-01	SHEET (CDL), RADIATION
61	2-630-433-01	SHEET (CD), RADIATION
62	2-631-075-01	CUSHION (UPPER)
⚠BT001	1-756-539-11	BATTERY, LITHIUM SECONDARY
MIC901	1-542-600-21	MICROPHONE UNIT
SP901	1-825-665-11	SPEAKER (1.3CM)

5-1-3. BATTERY HOLDER SECTION

ns: not supplied



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description
101	A-1114-614-A	SY-116 BOARD, COMPLETE (SERVICE) (GP1) (J)
101	A-1114-615-A	SY-116 BOARD, COMPLETE (SERVICE) (GP2) (US, CND, AUS)
101	A-1114-616-A	SY-116 BOARD, COMPLETE (SERVICE) (GP3) (AEP, UK)
101	A-1114-617-A	SY-116 BOARD, COMPLETE (SERVICE) (GP4) (E)
101	A-1114-618-A	SY-116 BOARD, COMPLETE (SERVICE) (GP5) (HK, KR, CH, JE)
102	1-866-461-11	FP-175 FLEXIBLE BOARD
⚠103	A-1106-330-A	ST-116 BOARD, COMPLETE
104	1-830-572-11	CABLE, FLEXIBLE FLAT (ST-002)
105	A-1106-327-A	SW-437 BOARD, COMPLETE
⚠106	1-479-089-11	FLASH UNIT
⚠BT901	1-756-526-11	HOLDER, BATTERY (WITH TERMINAL)
D901	1-479-130-11	BLOCK, LIGHT GUIDE PLATE (1.5)
LCD901	1-805-720-11	INDICATOR MODULE, LIQUID CRYSTAL

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5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
	A-1107-919-A	LENS BLOCK ASSY (950B (J1)) (Note)
	(Not supplied)	CD-575 FLEXIBLE BOARD, COMPLETE (Note)
		**********
		(Lens block assy (950B (J1)) is including CD-575 flexible board.)

Note 1: Be sure to read “Precuations for Replacement of Lens Block (CCD Imager)” on page 4-5, when changing the Lens Block (CCD Imager).

Note 2: Cautions are required for the handling of lens block. Refer to “THE CAUTIONS AT THE TIME OF LENS BLOCK HANDLING” on page 1-2, when you exchange.

Electrical parts list of the CH-169 board is not shown.
Page 5-6 is not shown.

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Ref. No.	Part No.	Description
	A-1106-332-A	FP-176 FLEXIBLE BOARD, COMPLETE **********
		< DIODE >
D001	6-500-505-01	DIODE OPY5052 (AF ILLUMINATOR/SELF TIMER)
		< MOTOR >
M001	1-763-818-51	DC MOTOR 8C-036G55 (LENS COVER MOTOR)
		< SWITCH >
S001	1-771-483-61	SWITCH, PUSH (1 KEY) (LENS COVER OPEN DETECT)
S002	1-771-483-71	SWITCH, PUSH (1 KEY) (LENS COVER CLOSE DETECT)
	1-866-463-11	MS-259 FLEXIBLE BOARD ********** (BT001 and SP901 are not included in MS-259 flexible board.)
⚠BT001	1-756-539-11	BATTERY, LITHIUM SECONDARY
SP901	1-825-665-11	SPEAKER (1.3CM)
⚠	A-1106-330-A	ST-116 BOARD, COMPLETE **********
⚠	1-479-089-11	FLASH UNIT
		< CAPACITOR >

C001	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C002	1-100-506-91	CERAMIC CHIP	1uF	20%	6.3V
⚠C004	1-100-758-11	CERAMIC CHIP	0.047uF	10%	250V
⚠C901	(Not supplied)	CAP, ELECT	117uF		315V

		< CONNECTOR >
CN001	1-816-644-31	FFC/CONNECTOR, FPC (LIF) 12P
		< DIODE >
⚠D001	6-501-096-01	DIODE CRF02 (TE85R)
		< IC >
⚠IC001	6-707-554-01	IC TPS65552DGQR
		< COIL >
L001	1-412-027-11	INDUCTOR 2.2uH
⚠L002	1-456-193-11	COIL, TRIGGER
		< TRANSISTOR >
⚠Q001	6-550-656-01	TRANSISTOR CY25BAJ-8F-T23
		< RESISTOR >

R001	1-218-990-11	SHORT CHIP	0		
R002	1-243-975-81	METAL CHIP	4.7M	5%	1/16W
R003	1-218-935-11	RES-CHIP	33	5%	1/16W
⚠R004	1-216-121-11	RES-CHIP	1M	5%	1/10W

Ref. No.	Part No.	Description
		< TRANSFORMER >
⚠T001	1-443-648-21	DC-DC CONVERTER TRANSFORMER
	A-1106-327-A	SW-437 BOARD, COMPLETE **********
		< CONNECTOR >
CN001	1-784-423-21	FFC/CONNECTOR, FPC (ZIF) 39P
CN002	1-817-549-11	CONNECTOR, FPC (LIF (NON-ZIF)) 8P
CN003	1-815-329-11	CONNECTOR, FPC (ZIF) 11P
CN004	1-794-375-21	PIN, CONNECTOR 2P
CN005	1-794-962-11	CONNECTOR, SQUARE TYPE (USB 5P)
CN006	1-816-654-31	FFC/CONNECTOR, FPC (LIF) 6P
		< DIODE >
D001	8-719-038-03	DIODE CL-190Y-CD-T (FLASH/RECORDING)
D002	8-719-075-29	DIODE SML-510MWT86S (AE/AF LOCK)
D005	8-719-064-07	DIODE SML-310LTT86 (MS ACCESS)
D013	6-500-776-01	DIODE MAZW068H0LS0
D014	8-719-056-54	DIODE MAZS068008S0
		< EARTH TERMINAL >
ET001	1-694-955-11	TERMINAL (ON BOARD CONTACT)
		< LINE FILTER >
LF001	1-456-583-11	COMMON MODE CHOKE COIL
		< RESISTOR >

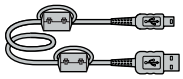
R013	1-218-953-11	RES-CHIP	1K	5%	1/16W
R014	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R020	1-218-990-11	SHORT CHIP	0		
R021	1-218-990-11	SHORT CHIP	0		
R024	1-218-953-11	RES-CHIP	1K	5%	1/16W
R025	1-218-990-11	SHORT CHIP	0		
R026	1-216-864-11	SHORT CHIP	0		
R027	1-218-990-11	SHORT CHIP	0		

		< COMPOSITION CIRCUIT BLOCK >
RB001	1-234-376-21	RES, NETWORK 2.2K (1005 x4)
RB002	1-234-376-21	RES, NETWORK 2.2K (1005 x4)
RB003	1-234-376-21	RES, NETWORK 2.2K (1005 x4)
		< SWITCH >
S002	1-786-157-11	SWITCH, TACTILE (▽ (SELF TIMER))
S003	1-786-157-11	SWITCH, TACTILE (△ (FLASH))
S004	1-786-157-11	SWITCH, TACTILE (○ (SET))
S005	1-786-157-11	SWITCH, TACTILE (DISPLAY / LCD ON/OFF)
S006	1-786-157-11	SWITCH, TACTILE (MENU)
S007	1-786-157-11	SWITCH, TACTILE (T (ZOOM))
S008	1-771-487-21	SWITCH, SLIDE (MODE SWITCH)
S009	1-786-157-11	SWITCH, TACTILE (▷ (SPOT METARING))
S010	1-786-157-11	SWITCH, TACTILE (◁ (REVIEW)
S011	1-786-157-11	SWITCH, TACTILE (IMAGE SIZE/DELETE)
S012	1-786-157-11	SWITCH, TACTILE (W (ZOOM))

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

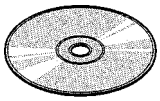
Electrical parts list of the SY-116 board is not shown.
Pages 5-8 to 5-11 are not shown.

Checking supplied accessories.

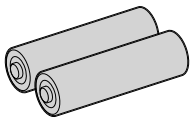


USB cable (1)
(USB 5P)
1-829-579-21

Wrist strap (1)
2-050-981-01



CD-ROM
(Cyber-shot application software) (1)
2-583-852-11 (US, J)
2-583-853-01 (EXCEPT US, J)



Alkaline manganese
battery (LR6) (2)
(not supplied)

Other accessories

2-589-974-01 INSTRUCTION (READ THIS FIRST) (JAPANESE) (J)
2-589-974-11 INSTRUCTION (READ THIS FIRST) (ENGLISH) (EXCEPT AEP, KR, J, CH)
2-589-974-21 INSTRUCTION (READ THIS FIRST) (FRENCH, ITALIAN) (CND, AEP)
2-589-974-31 INSTRUCTION (READ THIS FIRST) (SPANISH, PORTUGUESE) (AEP, E, JE)
2-589-974-41 INSTRUCTION (READ THIS FIRST) (GERMAN, DUTCH) (AEP)

2-589-974-51 INSTRUCTION (READ THIS FIRST) (TRADITIONAL CHINESE, SIMPLIFIED CHINESE) (E, HK, CH, JE)
2-589-974-61 INSTRUCTION (READ THIS FIRST) (RUSSIAN, SWEDISH) (AEP)
2-589-974-71 INSTRUCTION (READ THIS FIRST) (ARABIC, PERSIAN) (E)
2-589-974-81 INSTRUCTION (READ THIS FIRST) (KOREAN) (KR, JE)
2-589-974-91 INSTRUCTION (READ THIS FIRST) (CZECH, POLISH) (AEP)

2-589-975-11 INSTRUCTION (READ THIS FIRST) (HUNGARIAN, SLOVAK) (AEP)

2-589-978-01 INSTRUCTION (USER'S GUIDE) (JAPANESE) (J)
2-589-978-11 INSTRUCTION (USER'S GUIDE) (ENGLISH) (EXCEPT AEP, KR, J, CH)
2-589-978-21 INSTRUCTION (USER'S GUIDE) (FRENCH, ITALIAN) (CND, AEP)
2-589-978-31 INSTRUCTION (USER'S GUIDE) (SPANISH, PORTUGUESE) (AEP, E, JE)
2-589-978-41 INSTRUCTION (USER'S GUIDE) (GERMAN, DUTCH) (AEP)

2-589-978-51 INSTRUCTION (USER'S GUIDE) (TRADITIONAL CHINESE, SIMPLIFIED CHINESE) (E, HK, CH, JE)
2-589-978-61 INSTRUCTION (USER'S GUIDE) (RUSSIAN, SWEDISH) (AEP)
2-589-978-71 INSTRUCTION (USER'S GUIDE) (ARABIC, PERSIAN) (E)
2-589-978-81 INSTRUCTION (USER'S GUIDE) (KOREAN) (KR, JE)
2-589-978-91 INSTRUCTION (USER'S GUIDE) (POLISH, CZECH) (AEP)

2-590-503-11 INSTRUCTION (USER'S GUIDE) (HUNGARIAN, SLOVAK) (AEP)

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